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AIR CORPS NEWS LETTER

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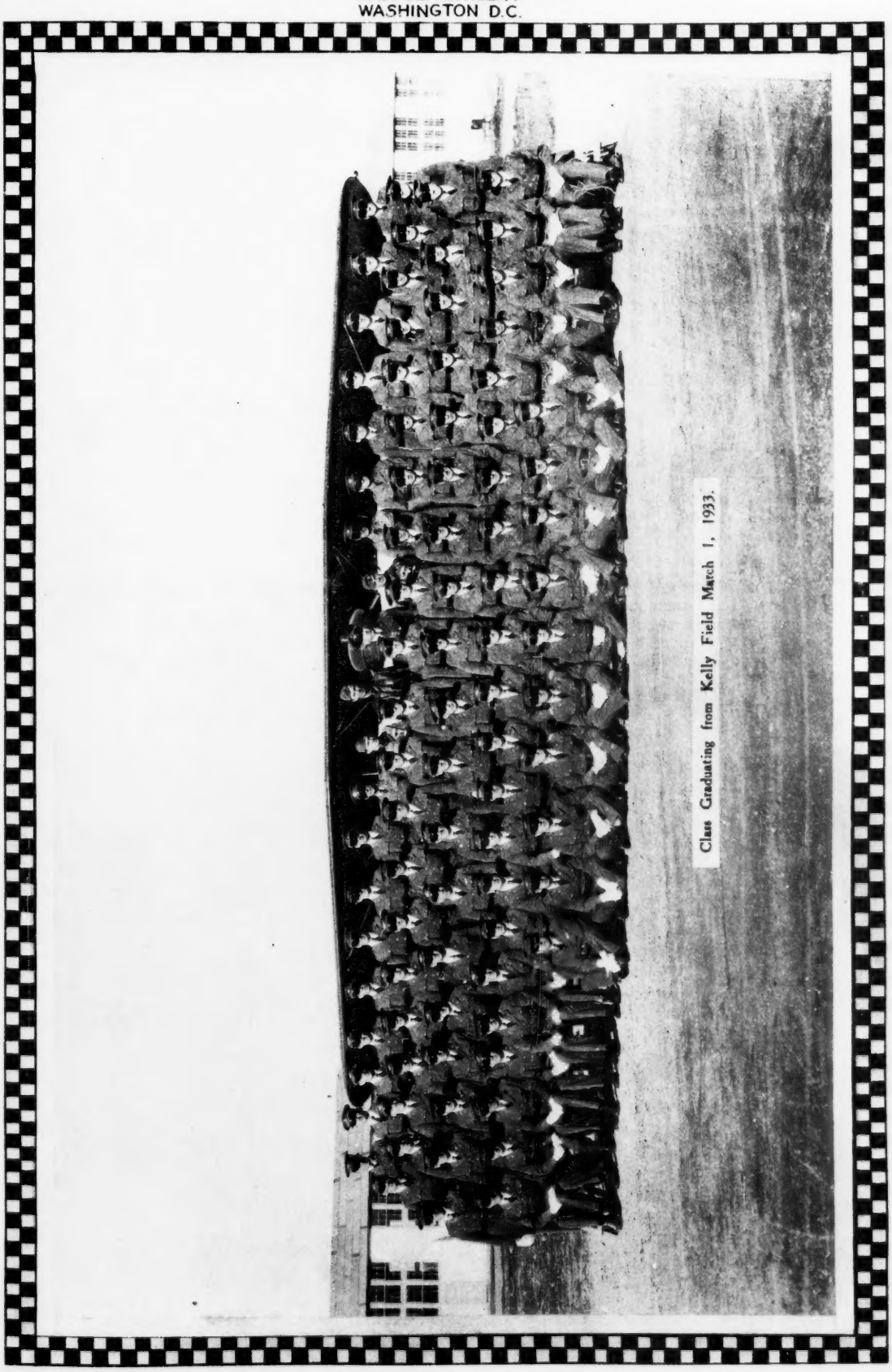

Class Graduating from Kelly Field March 1, 1933.

VOL. XVII February 24, 1933 No. 2

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A MESSAGE FROM MR. DAVISON

ASSISTANT SECRETARY OF WAR (AIR)
Washington

February 27, 1933.

Dear General Foulois:

May I ask you to transmit the enclosed communication to the officers, enlisted men and the civilian employees of the Air Corps and their families?

Very truly yours,
(signed) F. TRUBEE DAVISON,
Assistant Secretary of War.

Major General Benjamin D. Foulois,
Chief of the Air Corps,
Washington, D.C.

ASSISTANT SECRETARY OF WAR (AIR)
Washington

February 27, 1933.

TO: The Officers, Enlisted Men and the Civilian Employees of the Air Corps and their families:

Since the enactment of the Five Year Program in 1926, the Air Corps has made considerable progress. In spite of the decrease in appropriations, that program has been completed as far as tactical units are concerned. Our equipment is better and there is more of it. Our housing is more attractive and more livable. The relative fighting strength of the Air Corps has materially increased and, therefore, the Nation is more secure.

This progress has, nevertheless, been accompanied by many disappointments. Some objectives have not been reached. Some hopes have not been realized. But, going up or down, in good times and bad, your devotion to the Service has never wavered.

Whatever progress has been made is due to your loyalty, ability and courage. Many others have had a part in it, but that part is insignificant compared with yours. By this same token, the future holds for you a very serious responsibility and a continuing opportunity, and I know that you will meet them effectively as you have in the past.

The most trying experiences come when the risks of military flying have fatal consequences. The men take those risks consciously and as incidents in the line of duty. But the Air Corps women are the ones who have the real burdens to bear, and they have met them with a cheerfulness and fortitude which makes those who appreciate their gravity very proud of them.

I would like to say to each of you, personally, that I am profoundly grateful for your loyalty and support and for your friendship. No man could have had them in greater measure than I. No man could have had a more inspiring association and, frankly, I hate to lose it. It will leave a very big hole in my life. My hope is that in the years to come I may have the privilege of continuing those friendships and, in one way or another, of serving the Air Corps.

Ours may not be the biggest air force in the world, but, by gracious, it is the best!

Happy landings!

(Signed) F. TRUBEE DAVISON.

V-6380, A.C.

ARMY MUTUAL AID ASSOCIATION PREMIUMS

The Army Mutual Aid Association has found it necessary to increase from $3.00 to $3.75 per month the special premiums charged members on flying duty who have joined the Association since April 17, 1923. The increase is necessary on account of excessive mortality suffered among members in that group during the year 1932, when the loss was almost double that of any previous year. It should be noted that the premium charged is lower than it was in 1926 and, if future mortality is as low or lower than the average during the period 1926 to 1931, inclusive, the Association will be able to reduce the flying premium again in the near future. It is believed that the Army Mutual's practice of a flat premium for all who draw flying pay is the most equitable plan, and that every member of the Air Corps who has dependents should carry insurance in the Association. The Association makes no money on this group. No charge is made for overhead and all special assessments received from fliers, as well as general reserve credits from matured policies among the group, are transferred to the special fund. It is a fact that observers, flight surgeons, balloon pilots and a few older fliers can secure commercial pilicies from companies which will charge fliers with low hazard less premium than the Army Mutual charges, but the same companies charge combat plane pilots, fliers engaging in experimental work, cross-country flying and formation flying higher premiums than does the Army Mutual. It is gratifying to note that most of the favored few who can get insurance cheaper elsewhere carry Army Mutual memberships nevertheless, as a matter of esprit de corps, for the mutual protection of our group as a whole. The management has been essentially fair to aviators, and the premium plan now in force was worked out by officers of the Air Corps who have studied the situation thoroughly. The recent increase is not proportionately large when compared to reductions made in the past or when compared to commercial rates in general. The Army Mutual has in the past been a leader in rate reductions and has had a good influence in inclining others to make Army fliers only reasonable charges.

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ENID, OKLA. PERPETUATES MEMORY OF LT. WOODRING

A resolution has been passed by the mayor and city commissioners of the City of Enid, Okla. changing the name of the Enid Air Park to Woodring Field. In all probability the dedication ceremony will be held the latter part of April or first of May.

The Resolution is as follows:

WHEREAS, I.A. Woodring, Lieutenant in the United States Army Air Service, on the 20 day of January, 1933, lost his life near Wright Field, Dayton, Ohio, while in the service of his country and in the line of duty, and,

WHEREAS, Lieutenant Woodring was a resident of the City of Enid, Oklahoma, for many years, and received his first air training in Enid, and,

WHEREAS, Lieutenant Woodring performed valiant service for his country, and was recognized as one of the foremost and able air men in the nation, and,

WHEREAS, the City of Enid desires to perpetuate his memory and to give recognition of his patriotic services to his country, deem it highly desirable and proper to name the Enid Air Park, Woodring Field;

THEREFORE BE IT RESOLVED BY THE MAYOR AND CITY COMMISSIONERS OF THE CITY OF ENID, OKLAHOMA, in regular meeting assembled, in loving memory and in honor of I.A. Woodring, Second Lieutenant in the United States Army, Air Service, the Enid Air Park shall on and after the 1st day of March 1933, be named and officially known as Woodring Field.

BE IT FURTHER RESOLVED, that this resolution be spread in full in the permanent records of the City of Enid, and,

BE IT FURTHER RESOLVED, that the City Cle of the City of Enid, deliver a copy of this resolution to the relatives of Lieutenant Woodring.

Unanimously adopted this 13th day of Jan ary, 1933, by the Mayor and Commissioners o the City of Enid, Oklahoma.

J. A. McGill, Mayor.
J.... Stucker, Commissioner.
Geo. R. Reinhardt, Commissio

Attest:
Lillian Plageman,
City Clerk.

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SERGEANT FISHER RETIRED

Having completed over thirty years of active service, First Sergeant Anthony L.Fishe of the 70th Service Squadron, March Field, Calif., was placed on the retired list on January 31st, 1933. Sergeant Fisher first enlisted in 1898, and has served in Tenness Kentucky, Missouri, Georgia, Philippine Islands, Vermont, New York, California, Michigan, Arizona and Alabama. During his tire service, he has never lost a day of u authorized absence from duty. All of his charge papers show character "Excellent." received a high commendation for his record as a soldier from the Post Commander.

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FURTHER TESTS IN COSMIC RAYS

Dr. Victor Neher, Assistant to Dr. Robert A. Millikan, of the California Institute of Technology, Pasadena, Calif., was at March Field, Riverside, Calif., during the middle of February, conducting further important tests in cosmic rays. Lieut. Carl Murray, the 73rd Pursuit Squadron, piloting a Pursu plane, assisted in these tests, flying the instruments to the highest altitudes attainable. Other tests were run during the past year in various parts of this country, also in Canada, Central America and South Americ but the altitudes reached at March Field du ing the latest tests exceeded those reached elsewhere.

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RADIO TESTS IN HAWAII

The 72nd Bombardment Squadron, Luke Field T.H., has been conducting tests with commun cations equipment to ascertain the distance the airplane set could be successfully used a ground station. The greatest distance wo ed so far has been approximately 24-miles, ception at both stations being very clear. This test is conducted in the following man ner: Five to six planes with communication equipment are sent to as many landing field on the Island with instructions as to time manner of working with the Squadron's grou set which is operating under direction of t Communications Officer. After all planes h checked in from the ground they are directe to assemble at some point, as nearly equidi tant from each field as possible. From tim of take-off from outlying fields until asse bly point is reached, planes are required t check in with Squadron Command plane at fr quent intervals. After rendezvous, the Squadron Ground Station directs an attack upon some objective. All missions have be worked with radio telephone.

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VOL. XVII AIR CORPS NEWS NO. 2

Information Division, Air Corps — February 24, 1933 — Munitions Building, Washington, D.C.

The chief purpose of this publication is to distribute information on aeronautics to the flying personnel in the Regular Army, Reserve Corps, National Guard, and others connected with aviation. Publishers are authorized to reprint material appearing herein, except that portion of the News Letter beginning with Notes from Air Corps Fields.

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MATERIEL DIVISION AERONAUTICAL DEVELOPMENTS DURING 1932 *

By Major C.W. Howard, Air Corps,
Chief, Engineering Section

IT is desired to outline briefly the major Experimental Projects and developments of the Engineering Section of the Materiel Division for the past calendar year and to comment on some of the principal projects that are to be undertaken this coming year. There are many minor investigations and a few secret projects that cannot be included in this paper. The annual appropriations for the Air Corps provide approximately $1,500,000. for the purchase of experimental and service test equipment and from the funds that are allotted for payroll purposes the Engineering Section is allotted approximately $900,000. for the salaries of the engineering and administrative personnel. The activities of the engineering personnel are largely directed to plans, preliminary designs, testing, and the details of engineering administration in connection with the development and construction of new types, and the improvement of existing airplanes, engines, and the numerous accessories that are obtained from the industry. Research and experimentation carried on in our laboratories are confined to projects that are not covered by the aircraft manufacturers or other Government laboratories.

In the expenditure of both cash and labor the Materiel Division, and in turn the Engineering Section, is guided by an experimental program which is first prepared and submitted to the Chief of the Budget by the Air Corps as supporting data for the annual estimates. At the beginning of the fiscal year for which the funds covered by these estimates become available, the program is revised to provide for contingencies that have arisen since the estimates were first submitted. The revised program receives the approval of the Chief of the Air Corps. In addition to the experimental and research program, Directives are published at the Materiel Division after approval of the Chief of the Air Corps. The Directives contain the general requirements in non-technical language of the new types of airplanes that are to be developed. The requirements are set up by a board of officers appointed by the Chief of the Air Corps for each specific type. The members of this board are selected from the personnel of the Office, Chief of Air Corps, tactical organizations, and the Materiel Division. The current Directive for Tactical Types provide for the following: Corps Observation Airplane, Army Observation Airplane, Light Multi-motored Bombardment Airplane, Heavy Bomber, Attack Airplane, and Pursuit Airplane.

Pursuit Airplanes are covered by four separate Directives which provide for the following subtypes: High Speed at Low Altitude. High Speed atHigh Altitude, Biplace Pursuit, and Intermediate Maneuverable type.

In 1931 a Board met for the purpose of formulating Directives for the Lighter-than-Air program. This Board recommended a larger type of nonrigid airship of 300,000 to 350,000-cu.ft. capacity for use as an observation and long-distance reconnaissance airship and bombardment airship. It must be realized, of course, that a 350,000-cu.ft. capacity airship will not fulfill the various functions required, but it represents the best type available with the amount of procurement funds now allotted to Lighter-than-Air. It is known as the Type TC-13. In addition, another type of car, which will be interchangeable, is under construction.

Last year the various types of airplanes were enumerated which were in the experimental and service test stages of development. There is little change in respect to the status of the YO-40, manufactured by the Curtiss Company, in view of the accident at the plant of the manufacturer which resulted in its being completely "washed out." A service test order for this airplane has been placed. The service article will be fitted with an improved landing gear, and minor changes are being made in the wing section. It will be powered with the Curtiss Wright Cyclone engine. In addition, the manufacturer is submitting one article with a monoplane in place of the sesquiplane wing arrangement. This will make possible a direct comparison of the relative values of these two wing arrangements for an observation airplane of the Corps type. The performance of this airplane exceeds the requirements of the Directive for the type.

Four O-31's, manufactured by Douglas Aircraft Corporation, are now on service test. The performance of these airplanes also exceeds the requirements of the Directive, but it has been found possible to still further increase the high speed by minor refinements. Changes in the landing gear, wing arrangement, and rear cockpit are, therefore, being made on the articles that are still under construction. The dimensions of the observation cockpit have been appreciably increased. The high speed is now in the 200 mph class.

For the Army Observation, service test quantities of the O-35 (Douglas) and the O-27, manufactured by the General Aviation Corporation are being delivered to the activities that have been designated for their service test. The high speed of the YO-27 has been appreciably increased. The O-35 for service testing has undergone only the usual refinements of an experimental article that goes into service test design. The continued development of this type of observation airplane will depend largely upon the experience of the tactical units in which it is tested. Both of these types are equipped with retractable landing gears. There have been a number of instances of landings with the wheel up. The damage has been slight but has led to experiments on positive methods of warning the pilot of the position of the wheels. The most effective apparatus appears to be an electric vibrator attached to the brake and rudder pedals Upon closing the throttle with the gear in the "up" position the circuit to the vibrator is closed and the pilot's attention is thereby directed to the gear.

Light Bombardment. Development of the Light Bombardment Airplane has resulted in procurement of a service test quantity of the B-7, manufactured by the Douglas Company. The ex-

*Calendar year.

perimental model designed and constructed by the Glenn L. Martin Company was submitted to the Division for test but was returned to the manufacturer for alteration and improvement. It has been resubmitted as a heavy bomber and its performance greatly exceeds the requirements of the Directive for both types of bombardment airplanes.

Heavy Bombardment. The service test articles of the Heavy Bombardment type B-9, manufactured by the Boeing Airplane Company, are now being delivered. This airplane represents a marked improvement, from a structural and maintenance standpoint, over the first articles that were received at the Division. The use of a geared engine has been definitely proved to be advantageous for airplanes of this class. For example, flight tests of the Curtiss B-2 airplane with direct drive, a 7:5 reduction gear, and 2:1 reduction gear for the propeller indicated an increase in high speed of approximately 20 miles per hour for the 2:1 gear over the direct drive.

One of the original experimental models of the B-9 (Boeing) is being equipped with a V-1570-F (Curtiss) engine and supercharger. The exhaust-driven supercharger improves performance above 20,000 feet, but it is questionable whether this type of installation is justified from a tactical standpoint.

Attack: The YA-8 Attack airplanes, manufactured by the Curtiss Company, are now undergoing service test at Fort Crockett. Preliminary reports indicate that the requirements for the Attack type have not been met. The Division now is conducting tests on the YA-10 (Curtiss) which is simply a YA-8 equipped with a Pratt & Whitney Hornet (R-1690) engine, instead of a Curtiss V-1570-F. Performance estimates indicated that the difference in speed would be negligible by this engine change and that there would be certain advantages in the take-off characteristics. Actual flight tests have revealed the air-cooled engine installation results in a loss of 12 miles per hour in speed; although the take-off characteristics are greatly improved. The difference in speeds of YA-10 and XA-8 amounts to 25 m.p.h. (The service test article with the direct-drive Conqueror was 13 miles slower than the experimental article, which has not wholly been accounted for.) This loss in speed can only be accounted for by interference effects, as it is usually possible to calculate very closely the high speed of an airplane where the performance estimates are based on actual flight tests as is the case of the YA-10. One of the service test articles is now under test powered with a GIV-1570 geared Conqueror (Curtiss) engine. This increases the weight with some improvement in high speed and marked improvement in take-off characteristics.

Pursuit. The XP-936, now designated P-26, which was referred to last year as being in the experimental stage, has passed through the service test stage, and is now ready for procurement as a standard type. The P-26, built by the Boeing Company, has a high speed that meets the Directive requirements specified for the maneuverable type at the time this airplane was laid down. TheXP-934, built by the Curtiss Company, recently arrived at the Materiel Division. This airplane is designed primarily for high speed at low altitude. An air-cooled engine installation was made at the plant of the manufacturer but failed to give the desired performance.

There have been various preliminary designs submitted by manufacturers of airplanes to meet the high speed at low altitude requirement based on the results obtained on the small high speed air-cooled types such as were used in the National Air Races. In general, however, the Division will not encourage manufacturers to lay down new types until high-powered engines now in experimental stages have been proved to meet military requirements. Preliminary designs and calculated performance on a considerable number of combinations of airplanes and engines are under way. These preliminary designs and performance estimates contain studies of adaptation of present models, with the various engines, and new designs and lay-outs, some of which will be used in connection with the preparation of new Directives, and others as a basis of making changes in existing types.

On the experimental and service test program for the power plants there are a number of liquid-cooled engines of the 1000-horse power class. Experimental engines must pass the type and endurance tests before they can be released for installation in aircraft. It is the policy of the Air Corps to require the following tests on a new type or model of an existing type of engine:

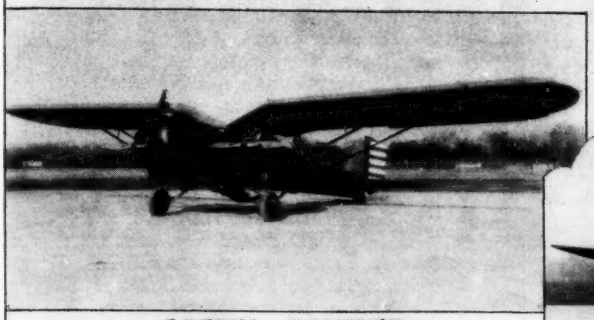
Development Test. This is the first test to be run on an engine of new design. The test is of fifty hours' duration and consists of ten five-hour periods, the first half-hour of each period being at full power, the next four and one-half hours at 90% full power, and the last hour of the last period at full power. Inasmuch as the primary object of the development test is to bring out any weakness or design defects which may exist in the engine the conductance of this test is not as strict as the type test, and reasonable replacements of failed parts and adjustments are allowed. The development test is generally run at the manufacturer's plant, but is witnessed by representatives of the Division.

Type Test. Upon completion of a satisfactory development test, another engine, preferably a production model incorporating modifications that are found to be necessary as the result of the development tests, is submitted to a type test. The object of this test is to determine whether the engine is approved for service test in an airplane, or airplanes. If a major failure occurs during the type test, the entire test is discontinued and the testing is re-run on a third engine which incorporates the improvements found to be necessary as a result of the failure of the first type test. The type test consists of 150 hours, and includes 50 hours' full power, 25 hours each at 97, 93 and 89 per cent speed on propeller load; 15 hours of alternate 5-minute periods of idling and full power; 10 hours at full power and 110 per cent rated speed, and whatever dive tests are considered necessary by the Air Corps.

Service Test. When the type test has been passed to the satisfaction of the Materiel Division, engines in quantities of three to twenty-five are procured and subjected to service test of not less than 200 hours each in service type airplanes. At the completion of 200 hours and with a satisfactory service test report the engines are recommended for standardization. It would appear that an engine which has passed tests as rigid as those outlined above could not fail to give satisfactory service. However, experience with engines installed in Pursuit type airplanes has indicated that these tests alone are not sufficient.

The matter of diving Pursuit types of airplanes at full throttle has been investigated. The speed of the P-26 after remaining in a vertical dive for 6000 feet is over 400 m.p.h. The difference in speed with power off and power on is less than 15 miles an hour. The difference in engine r.p.m. is 450 r.p.m. The loads on the connecting rod bearing increase approximately as the square of the r.p.m., so that it may be readily seen what a terrific price must be paid from

TACTICAL TYPES



LIGHT BOMBER

HEAVY BOMBER

ATTACK

ARMY OBSERVATION

CORPS OBSERVATION

SINGLE-PLACE PURSUIT

TWO-PLACE PURSUIT

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a design standpoint for the additional fifteen miles an hour attained in vertical dive.

During the past year a great deal of sentiment has crystallized in the Air Corps towards the substitution of air-cooled power plants in practically all existing types that are now in the experimental and service test stages. In view of this it is desired to set forth a few of the principles based upon which the continued development of the liquid-cooled engine is considered to be necessary and expedient.

The variables which enter into the design problems of airplanes and affect performance are power, weight, drag, and wing efficiency. The power plant design affects directly three out of four of the above variables. The power plant and its accessories actually represent a greater percentage of the total weight of the modern airplane than the airplane structure, including the fuselage, wings, landing gear, and permanent installations. The criteria upon which the relative usefulness of military power plants are based include, in the order of their importance, weight per horse power, specific fuel consumption, and reliability. To compare the liquid-cooled with the air-cooled engine, one should first take into consideration the prerequisites for engines of the present power class used in military aircraft. The air-cooled engine is superior from the standpoint of weight per horsepower and reliability. With respect to streamline installations and fuel consumption, the liquid-cooled engine ranks at present with the air-cooled engine. However, new developments in the air-cooled field make possible a lower fuel consumption than that of any conventional liquid-cooled engine. The ring cowl on some air-cooled installations has reduced the drag to ... equal that of the best liquid-cooled installations, even taking into consideration the savings obtained through the use of Ethyl Glycol as coolant.

Experience has shown, however, that the interference effects in high speed areplanes are so great that the best designs come from the designer who has the faculty of foreseeing interference and inter-effects and is able to produce the best compromise of the characteristics desired. A maze of conflicting information has resulted from the studies at the Division and from data obtained from actual flight tests. In some instances, the same airplane (such as the B-9), flown under identical conditions with air-cooled and liquid-cooled engines, has shown superior performance with the air-cooled engine. In other instances, notably with Attack airplanes, the reverse is true. However, from the developments of the last year it can be concluded that for engines of the 600-h.p. class, the air-cooled engine can be used in the military airplane to better advantage than the liquid-cooled engine, and with a gain in reliability. At present one exception is the V-1570 (Curtiss liquid-cooled) with a side type or centrifugal type of supercharger. This type of supercharger has distinct advantages over the gear-driven supercharger which is used in all conventional air-cooled engines. These advantages result in performance above 20,000 feet far in advance of those that have been obtained with the air-cooled engine. The P-6D airplane, for instance, at 20,000 feet, with this equipment had a high speed in excess of 200 miles per hour; and the P-6D is a 1925 airplane.

In considering engines of the 1000-h.p. class for military airplanes, we should consider precedent and experience abroad in like developments. There are now a number of examples of liquid-cooled engines of the 1000 h.p. class developed for racing purposes. The air-cooled engine has yet to prove itself in the larger units. It is well known that there is a limiting cylinder size for an efficient power output. This applies especially to air-cooled radial designs, and the present displacement of 1800 cu.in. for a 9-cylinder radial engine appears to be approximately the limit. Or, in other words, the air-cooled cylinder is limited to about 200 cu.in. With the liquid-cooled engine it is possible to increase the displacement by increasing the number of cylinders, but for radial air-cooled types this is limited by the cooling problem. At present manufacturers are working with the two-row radial. This development shows considerable promise.

The relative weights of the liquid-cooled and air-cooled engines with increased power and displacement should be practically the same as those of the smaller units. It can be concluded, therefore, that the question of cooling is the obstacle which in the light of present knowledge prevents the practical realization of air-cooled radial type engines in power units of more than 600 h.p.

The Materiel Division in cooperation with the engine manufacturers has taken another step during this past year in the improvement and towards continued increase in power of a small air-cooled radial. For example, a 1340-cubic inch displacement engine has been shown to be capable of delivering 600 h.p. at sea level. This represents an engine which is far more efficient than the Conqueror or the Rolls-Royce Kestrel, both from the standpoint of weight per horsepower and cubic inch displacement. The method used for obtaining this increased power is by ground boosting or supercharging at sea level and by increasing the compression ratio.

In addition, this year has brought about further improvements in piston design, fuel, oil, cooling, spark plug design and cylinder construction. The reduction gear is now successfully applied to the radual engines of the 600-h.p. class. As an example the engines for the B-9 airplane (Boeing) are both supercharged and geared, and the same applies to the engines for the XB-907 (Glen L. Martin) Bomber.

The problem of reduction gears for both air-cooled and liquid-cooled engines is slowly correlated with propeller design. The three-bladed propeller has proved to be a distinct advantage for many installations. It is a simple means of reducing propeller tip speeds. Also a propeller of small diameter makes it much simpler for the airplane designer to provide for proper clearance between the ground and the propeller, and allows the engines to be placed further inboard, thereby improving, in many cases, the aerodynamic characteristics and structure of the airplane. There are three types of controllable propellers in service test. The controllable pitch propeller has two applications; one for improving the take-off of heavily loaded airplanes, which with a fixed propeller requires a compromise between the take-off and high speed characteristics; the other for permitting the most efficient angle of propeller setting at all altitudes where supercharging is used.

Investigations have continued in the fuel and oil testing laboratories and as a result of the work accomplished much has been learned about the characteristics of various base fuels and the technique of "knock-testing." The last changes in the specification for aircraft fuels eliminate the reference to octane-pentane ratings. The specification now prescribes a standard fuel, which is used as a basis of comparison in the test engines for knock-testing fuel samples that are submitted in connection with improved and experimental fuels, as well as the fuel that is used by the tactical organizations. Studies on the prevention of cylinder bore and exhaust valve corrosion due to use of gasoline containing tetraethyl lead have resulted in marked improvements.

The side-type supercharger development has

suffered serious setback from an unexpected source. With the advent of hot weather it developed that our present fuel systems are inadequate since the fuel in the tank and lines is at greatly reduced pressure at high altitudes. During the hot months the fuel assumes the approximate temperature at sea level and then during the climb to operating altitude does not have sufficient time to cool. As a result vapor forms in the fuel lines on the suction side of the pump. The installations, therefore, on all supercharged airplanes have had to be changed to provide for larger lines and improved plumbing.

Cooling system developments have been neglected during the year due to shortage of personnel and the difficulty in obtaining engineers adapted for this type of development work. It has only been within the last year that a comprehensive program has been laid out for the purpose of bringing this phase of the liquid-cooled engine development up to date. The program includes studies of the use of greater core depth, problems of radiator cowling, and means of removing gas or vapor formed in the cooling system.

A definite requirement for radio installations on practically all types of tactical airplanes had led to continued studies, investigations, and tests of shielding, bonding and conduit systems.

Two types of engine starters are on our development program. One type is designated as a cartridge starter, the source of power being derived from a powder charge contained in a shell similar to the conventional shot gun shell. The other type is a direct cranking starter which is an adaptation of that used by the automotive industry. The principal difficulty with the latter type is due to its failure to turn the engine over fast enough to effect satisfactory starting. It has the advantage, however, of superior cool weather performance, as it is free from the difficulties that have been experienced with the present inertia type starter which involves a complicated system of gears and a clutch. Each of these developments might still be considered in a highly experimental stage, and in the meantime an effort is being made to remedy the defects in the present standard starter by means of improvements of minor details.

The problem of silencing aircraft in flight involves two major elements - the propeller and the exhaust. Silencing can be accomplished through the propeller by special design, and reduction gears for the engine. It has been found that above certain critical tip speeds the intensity of sound increases very rapidly. This has led to the design of broader blades and the use of three blades as means of decreasing diameter. In each instance special attention has been paid to the shape of the tip. Long narrow tips give higher efficiency, but this will have to be sacrificed for silent operation. The controllable pitch propeller is a simple means of reducing the sound, since the r.p.m. can be reduced by increasing the pitch when in flight. The matter of silencing by means of exhaust mufflers is more troublesome. The use of mufflers results in loss of speed and means added weight. Also, long exhaust stacks have for many years been considered one of the principal sources of fires. This is simply another case where new demands have made it necessary to effect compromises.

Under the heading of research and experimentation, carried on at the Division, there are developments in metal structures including new designs embodying the metal monocoque principle. The static tests of the P-26(Boeing) have been highly satisfactory from a structural standpoint and have exceeded the requirements under all conditions. The development of the stress-skin type of metal fuselage structure has made necessary certain additional specific rigidity requirements. These will include such items as: tail torsion tests, wing vibration and torsion tests, tests for vibration frequency of any part of the airplane suspected of possible flutter in flight.

The use of the externally wire-braced monoplane has necessitated definite means of determining the initial stresses of the brace wires. A number of strain gauges have been developed. These are on service test and it remains for the service to determine how practical they are for use in connection with maintenance.

The streamline wheel and tire developments are represented in a number of active projects. Armament developments have been largely centered around bomb sights and bomb racks during the past year. A project has been initiated to install wing guns on a P-6E. Tests were at one time conducted on this method of mounting the fixed guns but were not considered sufficiently conclusive, even though reported on negatively by tactical units.

Experimentation with instruments and radio aids to navigation has resulted in the development of the radio compass, Type E-4, previously described and now in service test status; the flight indicator, Type C-1; turn indicator, Type A-1 (artificial horizon); and directional gyroscope now ready for standardization. Developments of a suction pump to be driven directly from the engine, for the purpose of operating flight instruments requiring a vacuum, is now under way. This will eliminate the use of the venturi heads and danger of instruments being rendered inoperative due to the formation of ice in flight. The sensitive altimeter, Type C-1, is now standard. Navigation equipment for a heavy bombardment airplane has been worked out and consists of the following items:

Avigator's Kit
Altimeter, Type C-5
Airspeed Indicator, Type C-4
Aperiodic Compass, Type D-7
Drift Sight, Type A-3
Radio Compass

In addition to the usual instruments the pilot's cockpit is equipped with a Command radio set - interphones, and radio compass.

The problems of blind flying involve experimentation in the highly specialized fields of radio communication devices and flight instruments. These involve the development of equipment for both aircraft and ground installations. The work of the Division, which has been directed to three systems, has extended over a period of four years and has resulted in the design, construction, and test of both radio and mechanical devices, some of which performed satisfactorily from a purely laboratory standpoint, but were either too complicated, too delicate, or too heavy for military use. As an example, a system of underground cables which was developed by the French marked the boundary of the landing field both in horizontal and vertical dimensions was tried out on a miniature scale installation. It was found that not only the special equipment required for installation in the airplane was too heavy, but that the adoption of a cable system for emergency airdromes in war times would be of questionable use in view of the difficulties in transporting and installing cables. Another system utilized the airways radio beacon to guide the pilot to the airdrome and a portable direction beacon to show the direction for landing, together with instruments that had been developed primarily for avigation. The aim in these developments was to utilize instruments for installation

in the airplane that could also be used for flight aids under normal conditions. The ground installations must be portable, light, and simple to set up, install and operate. This had led to the substitution of the Radio Compass and two small radio transmitters for the airways and portable directional beacons. This latter principle was demonstrated to be practical. The apparatus that was installed in the airplane consisted only of the radio compass, flight indicator, (gyro horizon), turn indicator, (gyro compass), sensitive altimeter, airspeed indicator, and the usual engine instruments. For the ground installation a small transmitter was used at the end of the landing runway in the vicinity of the boundary, or a little beyond, a similar transmitter was located one or two miles farther away in prolongation of a line drawn through a point in the landing area and the transmitter near the boundary of the area. In the use of this system for blind landings the pilot is directed to the approximate position of the airdrome by radio compass if there is a broadcasting station in the vicinity; if not, by the magnetic compass and dead reckoning. Upon nearing the airdrome the pilot tunes the radio compass in on the Field localizer transmitter nearest the boundary of the landing area. When the airplane passes over this point on the ground, the indicator of the compass oscillates from one side to the other. The pilot is then to tune the radio compass to the second transmitter. This is accomplished by simply a flip of the tuner. The airplane now can be headed along the reverse bearing of the landing direction. Upon crossing the outer station a 180-degrees turn is made by the use of the turn indicator at an altitude of 500 feet. The airplane is placed in a gradual power glide headed towards the transmitter nearest the boundary line (Station No. 1) of the landing area. An altitude of at least 150 feet above the ground, indicated by the sensitive altimeter, is maintained until the boundary transmitter is crossed. The engine r.p.m. is then set so that an airspeed of about ten miles above the stalling speed of the airplane is maintained in the position of level flight. The rate of descent should then be about 300 or 400 feet per minute, which is readily indicated on the sensitive altimeter.

It should be understood that the radio compass is an accessory to the conventional radio installations and therefore two-ways communication is possible between the ground and the pilot where the airplane is equipped with two-way radio. In such cases the pilot can determine the exact setting of the sensitive altimeter to show the barometric height of the landing field. The sensitive altimeter is subject to errors as a result in changes of the atmospheric pressure. Under ordinary conditions errors from this source will not exceed 40 feet. In case the barometric altitude of the landing field cannot be determined by the operator of the ground stations, a safe blind landing can be made by simply locating the two markers or field localizers in such a position that an error of a hundred feet can be made in the altitude at which the airplane crosses the boundary transmitter. The pilot must know the actual height of the landing area above sea level.

The developments and experimentation on new materials have included studies of the difficulties that have resulted from the deterioration of shatter-proof glass in the tropics. The manufacturers have cooperated in this work and a service test of laminated glass, which represents the best materials now available for the resistance to intense sunlight, is being sent to Panama. Upon request of various service activities, tentative specification was drafted to cover Polished Pigmented Nitrate Dope Surfaces for Aircraft. The relative cost and serviceability of the polish finish is about 400 per cent more than the standard finish. The reports thus far received on the serviceability indicate that the high gloss finish is superior insofar as the retention of gloss and excess of cleaning are concerned. The weight of the high gloss finish is of course appreciably higher than the standard finish.

Confusion exists in the various activities as to the proper use of greases for starters, rocker arms, et cetera. Spot welding is being studied both from a standpoint of stainless steel structures and aluminum alloy structures. Magnesium alloys are being tested in propellers and seats, as well as being adopted as a standard material for certain engine parts. An extensive program for the development and testing of solder which will have a higher melting point is under way. This has been necessary as a result of frequent failures of soldered joints of the radiator used on present liquid-cooled engine installations employing Prestone (Ethylene Glycol) as a coolant. Attention is also being directed to synthetic rubber as a substitute for natural rubber in gasoline hose, balloon fabric, and other rubber materials. Tests are being continued on the investigation of the deterioration of parachute silk when in service. Indications are that sunlight is more harmful to silk than salt water.

In summarizing the engineering accomplishments for the past year, the development of the P-26 airplane to a stage where it is now ready for production will place the Air Corps in a secure position in relation to performance judging from what we know of developments of this type abroad. For bombardment the B-9 (Boeing) and the XB-907 (Glenn L. Martin) are ready for production and occupy even a higher position on the scale of comparative performances. However, it is anticipated that there will be additional engineering required before they will be accepted by the tactical organization as enthusiastically as the Pursuit type. The O-31 (Douglas) and the O-40 (Curtiss) are faster than any Observation types in a like stage of development. The P-25 (Consolidated) shows great promise. The engineering departments of the manufacturing companies who produced these airplanes are to be commended for their splendid cooperation and initiative in making these airplanes possible.

It is believed that the urgency of replacement of standard types will be the justification for the procurement of existing attack airplanes rather than the merit of the present type. For a light Bombardment airplane the B-7 (Douglas) is considered satisfactory, from an engineering standpoint, for the purpose of determining the usefulness of this specific type from a tactical standpoint. The Training airplane and engine situation is highly satisfactory both to the training centers and the Materiel Division. A good airplane with several engine combinations is now realized in the PT-11 (Consolidated). In addition, the Air Corps has acquired design rights for the PT-9 (Stearman) and the P-10 (Verville), both of which are satisfactory airplanes and could be placed in production in case of an emergency. For Cargo types the Division has continued the policy of selecting commercial airplanes that best meet the specific requirements of the Air Corps. Consideration is being given, however, to the setting up of specific requirements for airplanes of this type, and preliminary studies are being made with this in view.

As it now appears there will be no outstanding increases in performance or changes in design during 1933, since the step taken in adopting the metal monocoque and low wing monoplane was a long one, and for engineering and economical reasons it will be well to continue these new types in production for some time. There remains a great deal to be accomplished, however, towards taking advantage of all the

potential possibilities of these new designs and types of structures.

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COSMIC RAY INVESTIGATIONS IN PANAMA

Dr. Neher, California scientist and co-worker with the world-famous Dr. Milliken in his search for information on the Cosmic Ray has again accepted the aid of the Air Corps in the furtherance of his tests - this time in Panama. "The tests conducted here," says the News Letter Correspondent, "did not necessitate the number of flights and the amount of heavy equipment such as was reported in the News Letter by the March Field representative on the tests conducted at that station. Only one flight was made here. Dr. Neher was enroute to California and his ship delayed only several hours in Panama, most of the time being taken up in the passage from the Atlantic to the Pacific. Lieut. L.D.Frederick installed Dr. Neher's electroscope and photo recording apparatus in an O-19C and gave it a ride up to 21,000 feet and back. To save time or to make the flight possible the equipment was installed at France Field, and the start of the climb made there while the landing was made at Albrook Field and the instruments delivered from there to Dr. Neher at his ship."

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QUARTERLY TACTICAL INSPECTION OF EQUIPMENT AT SELFRIDGE FIELD

Major George H. Brett, Commanding Officer of Selfridge Field, conducted his quarterly inspection on January 17th of tactical equipment of the 1st Pursuit Group, as per orders issued by the Chief of the Air Corps.

The object of the inspection was to insure that all tactical organizations at the field are equipped and ready for field service. Major Brett caused all airplanes of every organization to be fully loaded and prepared as if for an actual wartime mission. The planes were paraded on their respective squadron hangar aprons, with a pilot and mechanic crew with each plane, and then the Major and his staff inspected every airplane. A very high wind and lowering clouds prevented an aerial review from being held after the ground inspection. However, each plane was taken up by its pilot on a solo hop and the guns tested by firing several rounds into nearby Lake St. Clair. Bomb racks and high altitude oxygen paraphernalia were also given practical tests to insure their being in efficient working order. Major Brett expressed himself as being pleased with the showing made by the Pursuit squadrons which make up the 1st Pursuit Group.

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COLD WEATHER PHOTOGRAPHERS DEFY JACK FROST

While the coldest weather of the year was sweeping through the Midwest on February 9th, it gave the Air Corps the opportunity of testing men and equipment under severe operating conditions, which might some day be encountered in an actual war, according to information received from the Air Corps Technical School, Chanute Field, Rantoul, Ill. Fifteen miles northwest from Chanute Field, ten enlisted students taking the Photographic course at the School set up two portable Army Photographic Developing and Printing Laboratory trucks and got ready for action. The trucks were backed against some snow drifts on the banks of a river which furnished water for the developing and printing after holes had been chopped through the ice on its surface.

Overhead a pilot and photographer in an Army airplane were taking aerial photographs of surrounding landmarks; dropping the rolls of exposed negatives by parachute to the crew of the trucks below. Although handicapped by the intense cold, the students developed and printed the photographs. Temperature was 15° below zero

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SECRETARY DAVISON INSPECTS LANGLEY FIELD PURSUITERS

The Hon. F. Trubee Davison, Assistant Secretary of War for Air, flew down from Washington on January 18th to inspect the 8th Pursuit Group under command of Major Byron Q. Jones.

The inspection was held to actually test the time it would require for the Group to start with bare airplane, install bomb racks, bombs, gun parts and ammunition, and be on the line ready for take-off.

Secretary Davison was very pleased with the performance shown. He was surprised that a whole Group could be on the line with all armament ready to go in twenty-eight minutes and twenty-one seconds (by the Secretary's own stop-watch).

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ITALIAN AIR ATTACHE VISITS SELFRIDGE FIELD

Commander Paolo Sbernadori, Air Attache to the Royal Embassy at Washington, D.C., made a visit to Selfridge Field for an interesting purpose. Arriving at the field on January 26th, he presented himself to Major George H. Brett, Commanding Officer of the Post, and requested cooperation and assistance in making advance arrangements for the trip through this place next summer of the twenty or so Italian naval seaplanes which will make a flight in formation from Italy to Chicago.

Major Brett placed the facilities of the Post at the disposal of Commander Sbernadori. The Commander's main interest was in mooring and servicing facilities on Lake St. Clair, adjacent to Selfridge Field, and also the practicability of a route across Michigan. He intended to map out by air a route across Michigan, inspecting the many small Michigan lakes for their usefulness as emergency landing places for seaplanes. But bad weather set in as soon as he arrived here and lasted so long that the Commander was forced to return to Washington without completing his survey at this time. He expects to return in the spring to accomplish his unfinished business.

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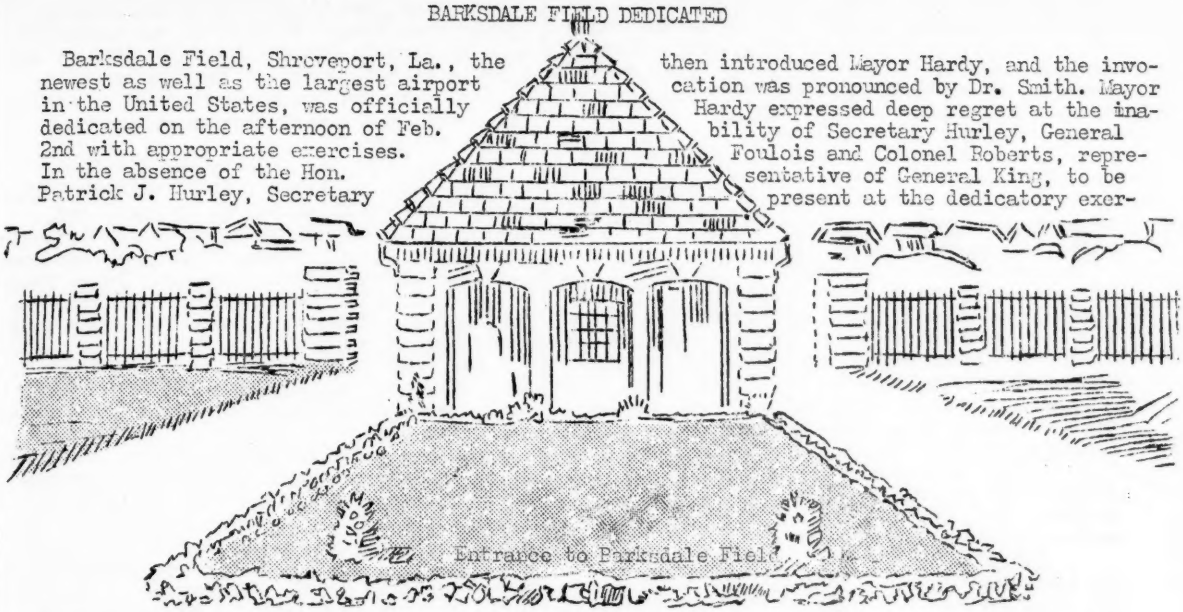
On January 17th, the Construction Quartermaster, Capt. Hartwell N. Williams, Q.M.C., opened bids and proposals of contractors, submitted for sixteen sets of noncommissioned officers' quarters, the first item of construction scheduled under the program of new construction at the Air Corps Technical School, Chanute Field, Rantoul, Ill.

BARKSDALE FIELD DEDICATED

Barksdale Field, Shreveport, La., the newest as well as the largest airport in the United States, was officially dedicated on the afternoon of Feb. 2nd with appropriate exercises. In the absence of the Hon. Patrick J. Hurley, Secretary of War, who during the course of his flight from Washington to Shreveport was delayed at Greensboro, N.C., due to bad weather, the Hon. F. Trubee Davison, Assistant Secretary of War for Air, delivered the dedicatory address. Thousands of people witnessed the dedication of this 23,000-acre reservation, which will be the home of the 3rd Attack Wing, Army Air Corps, when the organizations now at this new field - the 20th, 55th and 77th Pursuit Squadrons and the 71st Service Squadron - will be joined by the Third Attack Group now stationed at Fort Crockett, Galveston, Texas.



Entrance to Barksdale Field

According to the press, the crowd at the dedication was conservatively estimated at approximately 40,000 people. The dedication exercises proper were followed by an aerial demonstration and maneuvers in which approximately 150 airplanes - gathered at the field for this occasion - participated.

Secretary Davison landed at Barksdale Field at noon from Maxwell Field, Ala., and was greeted by Major Millard F. Harmon, Commanding Officer of the field. Conducted to Major Harmon's quarters for luncheon, Mr. Davison took a brief rest prior to the dedicatory exercises.

Mrs. Kate W. Barksdale, of Goshen Springs, Miss., mother of the late Lieut. Eugene Hoy Barksdale, in whose memory and honor the field was named, was guest of honor at the dedication ceremonies. Mrs. Barksdale, with a group of relatives, including several sisters and a brother of the deceased flyer, arrived at Shreveport by airplane on February 1st.

At the beginning of the dedicatory program, an oil painting of the late Lieut. Barksdale was unveiled. This painting is the work of Robert E. Richard of Shreveport, who is presenting the picture to Barksdale Field. During the program a beautiful bouquet of roses was presented to Mrs. Barksdale by Mayor George W. Hardy on behalf of the city of Shreveport.

At the opening of the dedication ceremonies shortly after two o'clock, Secretary Davison was accompanied to the reviewing stand by Mayor Hardy; Brig.-Gen. Raymond Fleming, Adjutant General; Dr. Gerald L.K. Miller; Major Millard F. Harmon; A.H. Tarver, President of the Chamber of Commerce, and J.M. Lee, immediate past president. The Barksdale Field officers, headed by Lieut. C.E. Crumrine, paused before the stand and saluted. Next came the visiting pilots who saluted.

Major Harmon then opened the dedication ceremony by extending a welcome to all visitors from out of the State. Next he welcomed the citizens of Louisiana and of Shreveport. He then introduced Mayor Hardy, and the invocation was pronounced by Dr. Smith. Mayor Hardy expressed deep regret at the inability of Secretary Hurley, General Foulois and Colonel Roberts, representative of General King, to be present at the dedicatory exercises, due to circumstances over which they had no control. General Fleming, representing the Louisiana Executive, expressed Gov. Allen's deep regrets at being unable to attend, and said: "Governor Allen, as well as I, is proud of Barksdale Field."

Mr. Davison, introduced by Mayor Hardy, said:

"This is a historic occasion for the Air Corps of the United States and I venture to say it is a historic occasion for Shreveport. Some years ago it devolved upon the War Department to select a home for the Air Corps," Mr. Davison said, in recalling many visits in connection with the selection of the site for Barksdale Field, and he spoke particularly of the visit he made here in company with Gen. Fechet. The two came here for a preliminary survey of the site. The people of Shreveport were trying to make as good impression as possible, he said, but it turned out to be a rather humorous affair. He and the General spent two days in Shreveport and when they started to leave they found that the hard rain which fell during the visit rendered the field so bad that they could not take off at the time scheduled.

"I admit that that looked bad for Shreveport at that time," he said. "These progressive citizens, however, convinced us that was unusual weather here. The government would never have selected such a plant as Barksdale Field had it not been for the progressive spirit of the people of Shreveport." Speaking for the government, he said that it should be eternally grateful to the people of Shreveport for making it possible to build this great field by giving the government the big site. He said that it was quite appropriate that the field be named in honor of one who gave his life for aviation, and he paid high tribute to the late Lieut. Barksdale who, he pointed out, sacrificed his life in testing aircraft that American aircraft might hold the place that it holds today. When one knows the personnel of the American air forces as he does, he knows them to be among the very finest people on earth, Mr. Davison said in paying tribute to the nation's airmen. He said it gave him particular pleasure to dedicate Barksdale Field in honor of one who gave his life to the great service represented.

The dedication program, climaxed by the playing of the National Anthem by the Standard Refinery Band, was followed by an aerial demonstration in which approximately 150 airplanes participated. The planes, upon taking

off from the south field, passed in review before the reviewing stand, circled to the north and again filed in review, after which they came to the ground on the north field. This was followed by group demonstrations and by an acrobatic team of Barksdale Field flyers.

Mr. and Mrs. B.B. Purser of Amite, La., and four of their children were present. Mr. and Mrs. Purser are the parents of the late Lieut. Britton H. Purser, killed in the only fatality at Barksdale Field. He lost his life in an air collision on December 3, 1932.

The dedication of Barksdale Field was an event long looked forward to by Shreveport, beginning several years back, when the government, picking this 25,000-acre site from many offered by other cities, announced that Shreveport would become the future home of the Third Attack Wing.

Among the groups of visiting flyers at the new field were flights from Texas flying fields-Randolph, Brooks, Kelly and Fort Crockett. Maj. F.L. Martin, Commandant of Randolph Field, led a flight of 18 BT-2B planes. He was accompanied by Pvt. Mitchell, 52nd School Squadron. Other members of the flight were:

Pilot	Passenger
Lt. H.F. Dyer	Pvt. Murray, 49th Sq.
Lt. D.H. Alkire	Capt. J.B. Helfrich, M.C.
Capt. A.C. Strickland	Capt. N.G. Bone, ACR
Lt. R.D. Johnston	Capt. H.D. Calvert, MCR
Lt. I.M. Palmer	Pvt. Stracher, Hqrs.
Capt. J.M. Duke	Maj. R.K. Simpson, M.C.
Lt. W.J. Davies	Sgt. Fusselman, 52nd
Lt. R. Heber	Maj. D.N.W. Grant, M.C.
Capt. J.B. Patrick	
Lt. T.W. Scott	Pvt. Verick, 53rd.
Lt. A.L. Moore	Pvt. Owens, 53rd.
Lt. L.C. Craigie	Col. Claude Carter, TNG
Lt. W.H. Tunner	Maj. M.G. Healy, M.C.
Lt. E.H. Porter	Lt.-Col. A.P. Clark, M.C.
Lt. G.A. Whatley	Pvt. Margolis, 53rd.
Lt. H.E. Rice	Capt. F.C. Thomas, QMC
Sgt. G.H. Holmes	Sgt. Fitzpatrick, 67th.

Captain Lester C. Maitland led a flight of 18 Attack planes from the Advanced Flying School, Kelly Field. With him were 1st Lieut. L.C. Mallory and 2nd Lieut. Albert Boyd, Air Corps; 2nd Lieut. M.H. Truly, atudent officer, and Flying Cadets Robert F. Strickland, Herman A. Schmid, Berton Root, Bob Arnold, David M. Barkley, Ernest W. Gray, Wilcox Wild, Dallas B. Sherman, William A. Coln, William B. Hooten, William W. Schaerdel, James M. Goodbar, George N. Backus and Allen L. Erickson. These student officers, upon graduation on Feb. 24th from the Advanced Flying School, are slated to be assigned to duty with the Third Attack Group.

Thirty airplanes from the 12th Observation Group, Brooks Field, Texas, led by Major Frank D. Lackland, reached Barksdale Field on February 2nd. They roared over the airport several times in perfect formation before landing and taxying to the hangar at the southern end of the line. The officers of this flight, in addition to Major Lackland, were Captains W.B. Mayer, Robert Kauch, W.S. Scott, Wm.S. Gravely, Benjamin F. Griffin, Lieuts. Frederick D.Lynch, W. S. Hanlin, Raymond Morrison, Milton J.Smith, Joseph H. Hicks, W.W. Messmore, Wm. T.Hefley, Jr., Wm. C. Sams, Jr., Isaac W. Ott, Richard I.Dugan, L.S. Callaway, John J. O'Hara, Jr., Lorry N. Tindal, Carl R. Storrie, Samuel C.Redetzke, Wm. L. Kennedy, Robert S. Macrum, John W. Egan, James McK. Thompson, Edwin W. Rawlings, James L. Fletcher, Hiram Broiles, R.L. Spickelmier, Thomas S. Davis, Jr., Lewis J. Conners, James A. Maxwell, Jr., D.R. Nelson, O.E. Tibbs, W. W. Amorous, O.J. Mosman, C.B. Collier and Staff Sgt. Henderson,

Lieut.-Col. Horace M. Hickam, Commanding Officer of the Third Attack Group, Fort Crockett, was unable to take off with his flight of 24 planes on February 1st, on account of a dense Gulf coastal fog. He was among the honor guests at the dedication ceremonies. Twenty planes of this Group gave a brief demonstration of ground straffing. In elements of three the planes dived to within almost 25 feet of the targets in the center of the landing area with two forward machine guns pelting leaden slugs into the targets representing enemy ground troops.

Three Army planes used by the Air Corps Reserve unit at Hatbox Field, Muskogee, Okla., arrived on the afternoon of February 1st, led by Lieut. Roy W. Camblin. Other officers from Kelly Field arriving that afternoon were Captains Morris Berman, Edgar E. Glenn, Thos. S. Voss, John W. Monahan, Odas Moon, Lieuts. M.F. Selzer, Henry R. Baxter, Neil B.Harding and George Murray.

Just before darkness, Lieut.-Col. Henry B. Clagett, Commanding Officer of Kelly Field, with Capt. Perry Wainer as passenger, came in for a landing.

More than 400 Air Corps officers, citizens of Shreveport and surrounding area, government officials and friends of the honored guests attended the banquet at the Crystall ballroom in Shreveport on the night of Feb. 2nd. The Hon. Patrick J. Hurley, Secretary of War, the honor guest, who landed at the Municipal Airport at Shreveport at six o'clock, stated in his address that the great new Army post has been completed as a part of the country's national defense scheme, "essential to the liberty of the people and the maintenance of free institutions." He emphasized that the aim of the United States is to live on the friendliest terms with all the world. "Our government has no imperialistic designs," he said, "nor have Americans any desire to maintain a system of national defense that will become a menace to the peace and happiness of any other people." The Secretary paid a tribute to the memory of Lieut.Barksdale, stating that that officer was a chivalrous knight of the air who gave his life in the advancement of science. Increased safety of both military and commercial planes was attributed by him to the services of Lt. Barksdale and those of his fellow test pilots who risked their lives daily in the interest of aviation development. Mr. Hurley congratulated the people of Shreveport on the splendid spirit they have shown in helping to make Barksdale Field a reality.

Mr. Yandell Boatner, who was president of the Shreveport Chamber of Commerce at the time the Barksdale Field site was selected, acted as toastmaster at the banquet. After tracing the negotiations leading to the acceptance of Barksdale Field by the government, he introduced Mr. Seth Richardson, Assistant Attorney General of the United States, who recalled some of the difficulties encountered in clearing up titles for the Barksdale tract.

Major General Benj. D. Foulois, Chief of the Air Corps, who arrived at Barksdale Field towards the close of the dedication ceremony, and who was the next speaker, said that he was deeply gratified by the large attendance at the dedication. "When I came in today, flying over the field while the event was in progress," he said, "I saw that great crowd of people and that great crowd of automobiles. It was one of the best experiences I have had for several years. This field is one of the most important links in our national defense. I was proud today when I saw the way the pilots performed with almost no preparations at all for the formations." In closing, he extended to Secretary Hurley and Assistant Secretary F. Trubee Davison "heartiest good wishes and respect in behalf of the Army Air Corps." "It is only through their unfailing efforts that we are where we are today in the Corps," he said.

Secretary Davison in his address recalled events in connection with Shreveport's efforts

to obtain Barksdale Field, and said that the spirit shown by the Shreveport citizens was magnificent. "When Barksdale Field is completed there will be no finer military airdrome in the world," he said, "and you people of Shreveport may not realize it, but you are going to have a great family here and a great responsibility. I can tell you, from my experience, that the Army Air Corps is the best outfit in the world today."

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ARMY PLANES JOINT HUNT FOR MISSING MAIL PILOT

Fifteen planes from Randolph Field were pressed into service to hunt for Ray Fuller, lost air mail pilot. Fuller was flying his regular trip carrying mail for the American Airways from Big Spring to San Antonio, when he apparently lost his way in the heavy clouds. He reported to the Airways radio station at Winburn Field at 2:07 a.m., January 20th, when he was coming through the clouds to learn his position. His signal then faded and nothing more was heard from him. General Danforth ordered the 15 ships out to search the territory within a radius of 100 miles of San Antonio, and he himself searched the vicinity of Boerne, Texas. The search was called off when it was learned that the wreckage of Fuller's plane was found on a ranch near Boerne by Mr. A.B. Williams and Mr. Paul Green, of San Antonio, Texas. A parachute flare was found in a tree several miles north of Boerne. It was found about fifty yards from the highway, and about fifty volunteers, including a troop of Boy Scouts, started to search that territory. Fuller was evidently killed instantly when his ship crashed.

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JOHN JAY IDE AT WRIGHT FIELD

John Jay Ide, Technical Representative of the National Advisory Committee for Aeronautics in Paris, addressed the personnel at Wright Field, Dayton, O., recently, his subject being a "Review of Aeronautical Developments in Europe during 1932." Mr. Ide, whose visits have come to be regarded at the Materiel Division as annual events, was introduced by Gen. H.C. Pratt. His lecture presented a comprehensive picture of the European aeronautical field, especially the military field - whose developments Mr. Ide referred to as being no less than "astonishing" - from the viewpoint of the technical engineer speaking to the technical engineer. Airplanes, power plants, superchargers, materials, structures and equipment were discussed. Photographic slides, many of the new types of airplanes exhibited at the Paris Exhibition, illustrated a most valuable talk.

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Ferrying new Curtiss Hawk Pursuit planes, Lieuts. Carlos Torres DeNavarra, Gustavo Alfonso, Pedro Duarte and Jose Barrientos of the Cuban Air Service landed recently at Bolling Field, D.C., from the Curtiss factory, Buffalo, N.Y., enroute to Havana, Cuba. An escort of planes from Bolling Field met the Cuban flyers and escorted them to the field, while Capt. Enrique A. Prietor, Military Attache of the Cuban Embassy; Lt.-Col. B.K. Yount, Commanding Officer of Bolling Field, and other diplomatic officials awaited their arrival. After luncheon, the visitors departed for Langley Field, Va., where they stopped overnight.

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Construction of the new officers' and noncommissioned officers quarters and Air Corps barracks was started at Post Field, Okla., and the work is well under way.

NEW CLASS TO START TRAINING AT RANDOLPH

"A new group of Dodos," says the News Letter Correspondent, "will arrive at the spacious Air Corps Primary Flying School Campus on March 1st, according to information received from the Office of the Chief of the Air Corps. To all concerned they will be known as the March, 1933, Class. The new aggregation will number 165. Perhaps they will refer to themselves as 165 strong, when each is notified by the Chief of the Air Corps that he has been selected to fill the role of flying cadet; but to the October class they will be just more dodos.

Although the lower class will be greatly outnumbered by their subordinates, the minority will rule as best they know how by this time. Those who will be upperclassmen to the men who arrive in March originally numbered 120, but less than half of that number have survived. Fatigue caps and coveralls do not make the most flashy drill uniforms in the world, but Dodos do get used to them. The new class will don the usual clothing, which might not appear particularly collegiate to some of the men just out of institutions of higher learning. Yet the days will be warmer and the sun will be brighter than when the October class became acclimated, in which case the Dodos may appreciate having their eyes well shaded while learning the school of the soldier and the manual of arms. Doubtless there will be many new Dodos with visions of crawling into an airplane cockpit the day after their arrival at the Air Corps Training Center but, as their predecessors found out, they will be fortunate if they get within a thousand yards of a plane until they have learned a great deal the School offers as a preliminary education.

Those who have been selected for the new class are as follows:

Abrahamzon, Melvin	Kearney, Neb.
Adkins, Steven M.	Parkston, S.D.
Altman, Dale E.	Gresham, Ore.
Ashman, Robert	Appleton, Wis.
Barney, Marshall H.	Greensboro, N.C.
Bartholomew, Oscar F.	Echo, Ore.
Basil, Frank	Denver, Colo.
Bayless, R.E.	Hillsboro, Texas
Bear, Clyde S.	Montgomery, Ala.
Beckler, Benj.F.,Jr.	New Marchfield, Ohio
Beetle, Richard S.	Edgartown, Mass
Bennett, Allan T.	Wilmington, Del.
Bradley, Robin N.	Spokane, Wash.
Bryant, Alexander W.	Petersburg, Va.
Buchak, Kirk	Omaha, Neb.
Bullock, Cady R.	Ann Arbor, Mich.
Burton, Alexander T.	Beverly Hills, Calif.
Caldwell, Neil M.	Jonesboro, La.
Capp, William C.	Venice, Calif.
Carson, James W.	Spartanburg, S.C.
Carter, James T., Jr.	Knoxville, Tenn.
Cavanaugh, James	Brighton, Mass.
Chamberlain, M.B.	Pontiac, Ill.
Chapman, James W.	Austin, Texas
Clement, Browne	Austin, Texas
Clingman, H. Walton	Boulder, Colo.
Clark, Nevin E.	Des Moines, Iowa
Cook, Frank R.	Denver, Colo.
Connally, Milton P.	Cisco, Texas
Crawford, Walter A.	Boise, Idaho
Cunnison, Dale	Riverside, Calif.
Davis, Homer L.	Arlington, Mass.
Day, Stanley	Oshkosh, Neb.
Dolezal, Glen M.	Englewood, Colo.
Donahue, Vincent J.	Jersey City, N.J.
Driesslein, Homer W.	Compton, Calif.
Eades, William	Lexington, Ky.
Eberle, Fred C.	Little Rock, Ark.
Ecklund, S. Harold	Lincoln, Neb.
Eisenhart, Donald W.	Culbertson, Neb.
Ellis, Herbert A., Jr.	Asheville, N.C.

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Evans, Archie J.	Chicago, Ill.
Evans, Charles E.	Tucson, Ariz.
Fisher, William A., Jr.	Baltimore, Md.
Foley, Paul J.	Dorchester, Mass.
Friese, Norval E.	Seattle, Wash.
Garff, Herschel B.	Salt Lake City, Utah
George, Thomas D.	Mountain Grove, Mo.
Gerdine, Thomas F.	San Francisco, Calif.
Gildea, R.E. Lee	Catonsville, Md.
Gray, Fred C., Jr.	Abilene, Texas
Gwillam, Oakley B.	Calgary, Alberta, Canada
Hall, Sylvester A.	Lafayette, Ind.
Hardeman, Ralph P.	La Fayette, Ga.
Harmantas, Louis	Cambridge, Mass.
Hatcher, William A., Jr.	Detroit, Mich.
Hay, James B.	Waterloo, Iowa
Haynes, Frank V.	Clyde, N.C.
Hilger, John A.	Houston, Texas
Hinton, J.W.	Port Arthur, Texas
Hunt, Oram F.	Swedesboro, N.J.
Hunter, William C.	Bridgeport, Ohio
James, Weldon M.	Fort Worth, Texas
Keese, William B.	Wyoming, N.J.
Kester, Edson E.	Jacksonville, Fla.
King, Ellroy, Jr.	Weatherford, Okla.
Lampl, Milton A.	Wichita, Kans.
Landauer, Joseph P.	Seattle, Wash.
Lincoln, Elmer D., Jr.	Portland, Ore.
Lininger, John B.	Columbus, Ohio.
Livingstone, Richmond A.	Pawtucket, R.I.
Luedecke, Alvin R.	El Dorado, Texas
Magill, William J.	Clark, Colo.
Martin, Henry C., Jr.	Pittsburgh, Penna.
Mason, Beverley F.	Dunsmuir, Calif.
MacAllister, Donald	Patterson, N.J.
McDermont, Verne A.	Riverside, Calif.
McGuide, Jesse H.	Austin, Texas
McKinney, James E.	Olney, Texas
McMahon, George R.	Huntington, W.Va.
Miller, Carlos O.	Los Angeles, Calif.
Moncrief, Hayward A.	Kosse, Texas
Moreman, Otis S., Jr.	Waverly, Ala.
Moser, Glen C.	Los Angeles, Calif.
Mostoller, Charles R.	Stayestown, Penna.
Motley, Clifford	Norman, Okla.
Motley, Luke, Jr.	Tenaha, Texas
Mundell, Leo	Fountain, Colo.
Norman, Joseph L.	Buffalo, N.Y.
Nowak, Joseph E.	Indianapolis, Ind.
Olmstead, Fay W.	Aurora, Colo.
Palmer, Albert L.	Terrell, Texas
Pannis, William W.	Philadelphia, Penna.
Parker, Keller P.	Dallas, Texas
Patton, James S.	Martinsville, Ind.
Pegler, Ernest	Sierra Madre, Calif.
Peterson, Clair A.	Fargo, N.D.
Peterson, Irwin W.	Worcester, Mass.
Philbrick, Alfred P.	Portsmouth, N.H.
Pierce, Arthur J.	Montague, Mass.
Pierce, George E.	Montague, Mass.
Pritchard, Rowland	Cheyenne, Wyo.
Proper, Louis	Modesto, Calif.
Puhaty, Edward J.	Portland, Ore.
Rees, Doyle	Smithfield, Utah
Rendle, Irvine A.	Rawlins, Wyo.
Rezac, George A.	Berwyn, Ill.
Robinson, Fred'k P., Jr.	New Orleans, La.
Root, Edgar W.	Birmingham, Ala.
Ruisi, N. John	Brooklyn, N.Y.
Saibara, Robert	Webster, Texas
St. Germain, Don P.	Breaux Bridge, La.
Sanford, George S.	Crichton, Ala.
Schaefer, William T.	Ripon, Wis.
Scherer, Robert M.	Olney, Ill.
Schoellkopf, Jacob F. 4th	Buffalo, N.Y.
Shannon, Perry	Fort Worth, Texas
Shoemaker, George R.	Pottstown, Penna.
Simmons, J. Osgood	Brunswick, Ga.
Sipsey, Harold J.	Lawrence, Mass.
Smith, Calvin J.	Los Angeles, Calif.
Smith, Eugene	Newburyport, Mass.
Spicer, Henry R.	Los Angeles, Calif.
Stafford, Vernon C.	Wellington, Texas
Stathis, Nicholas P.	Watertown, Mass.
Stone, Frank C.	Wichita, Kans.
Strick, John F.	Lorain, Ohio
Timper, Norman F.D.	Watertown, Mass.
Tindall, John C.	Springfield, Mo.
Todd, Paul E.	San Antonio, Texas
Trautman, Ray L.	Newport, Ky.
Trygstad, Victor S.	Northfield, Minn.
Virgin, Edward	Montgomery, Ala.
Walker, Victor H.	Gallup, N.M.
Wasman, Elmer C.	Downs, Ill.
Whitehead, Ross	Mt. Vernon, N.Y.
Wilson, Paul B.	Carlisle, Penna.
Winwood, James F.	Salt Lake City, Utah
Yeckley, William H.	Lorain, Ohio
Zacker, Payl G.	Lodi, Calif.
Zepp, Payl L.	Baltimore, Md.

Air Corps Enlisted Men (Privates)

Henry Altman, 26th Attack Sqdn., Schofield Bks.
Richard C. Kugel, 72d Bomb. Sqdn. Luke Field, T.H.
L.E. Martin, 47th School Sqdn. Randolph Field.
R.H. Mueller, 18th Pursuit Group, Schofield Bks.
John C. Myers, 47th School Sqdn., Randolph Field.
T.A. Nadeau, Jr., 75th Service Sq. Wheeler Field.
H.N. Penland, 19th Pursuit Sq. Schofield Bks.
Wm. F. Proctor, A.C. Det. Bolling Field, D.C.
R.W. Rodieck, 3d Attack Group, Ft. Crockett.
Jos.B. Smith, 7th Obs. Sqdn. France Field, C.Z.
Caleb B.Bell, Jr. 2nd Photo Sec. Langley Field.

Enlisted Men, Other Branches

Corp. Henry G. Brickman, 33d Inf. Fort Clayton, Panama Canal Zone.
Pvt. Andrew O. Lerche, 11th Engrs. Corozal, C.Z.
Pvt. Lawrence Handler, 17th Signal Service Co. Washington, D.C.
Sgt. Charles W. Dutreau and Pvt. John H. Knox, Medical Dept., Wm. Beaumont Hospital, El Paso.

Student Officers

Captain William J. Flood, Air Corps
2nd Lieut. Charles F. Born, Cavalry
2nd Lieut. Walter E. Kraus, Field Artillery
2nd Lieut. Elvin H. Eddy, Field Artillery
2nd Lieut. Robert H. Kelly, Infantry
2nd Lieut. John F. Wadman, Infantry.

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SECRETARY DAVISON IN AIR COMBAT EXERCISE

The 2nd Bombardment Group, Langley Field, Va. was highly honored recently when the Assistant Secretary of War for Air, the Hon. F. Trubee Davison, accompanied the Group on a combat exercise which lasted approximately one and one-half hours.

Mr. Davison donned the full regalia of the bombardment aviator, which included the winter flying suit, parachute, radio transmitter and helmet, goggles and fleece lined boots. During the entire mission, Major Dargue, the Group Commander, exercised direct control over each airplane participating through the medium of radiophone communications. Bombs were dropped, the Group drilled in formation maneuvering, and a final landing was made by squadrons in column on the home airdrome. Mr. Davison could hear every order issued and acknowledged over the radio through the helmet provided him, and upon completion of the exercise expressed himself as being highly pleased with the tactical progress made by the 2nd Bombardment Group. His astonishment was also expressed as to the manner in which the 2nd Bombardment Group has increased the maneuverability of the heavy Air Corps Bombers by means of the development of entirely new types of formations and highly improved individual piloting technique.

Mr. Davison flew in Major Dargue's Group Command airplane, the familiar Keystone B-6 #100, with the Group insignia displayed proudly on the nose of the Bomber's cockpit.

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Capt. Wm. C. Goldsborough, who recently received orders to proceed to Scott Field, Ill. has been Assistant Stage Commander on the Primary Stage ever since Randolph Field opened. He will not only be missed by the flying cadets whose fate oftentimes rested in his hands, but by many of his friends at Randolph Field.

V-6330, A.C.

LANGLEY PURSUIT PILOTS AT MIAMI AIR RACES

With 39 Pursuit airplanes, the Eighth Pursuit Group took off from Langley Field and stormed the Atlantic Coast enroute to the Miami Air Races. The trip was scheduled for a one-day hop. Starting at dawn on the morning of January 3rd, the Group made the first stop at Pope Field on schedule. The flight of nine P-6E's, led by Major Byron Q. Jones, having the edge over the P-12's flown by the rest of the Group, were the first to land, gas and take off for Jacksonville. The rest of the Group took off when their chores at Pope were completed.

The trip was uneventful as far as Savannah, but shortly after this beautiful Georgia city was passed each Squadron in turn ran into a curtain of fog and light rain. Two of the outfits, led by Captains A.E. Waller and N. Longfellow, thought of their history books and the places in Savannah that these books extolled and decided to go back and get a look, first hand, as long as they were in that vicinity. The flights led by Major Jones, Captains George and Elliott, thought this was really nothing to deter a Group of Army aviators, so they plowed on through until it was too late to turn back. There were about 50 miles of "soup," and it took about 25 minutes to go through.

Jacksonville finally popped up along the railroad track someone had been good enough to put through this fog-eaten country and by which the Group were navigating. The sight of land to Columbus was no better sight than this airport.

Wires started humming with messages trying to locate and account for those of the Group not at Jacksonville. Airplanes were serviced and pilots and men fed. By this time it was too late to take off for Miami, so it was decided to spend the night in Jacksonville and wait for the rest of the Group to catch up and then all proceed to the Air Races. The wanderers finally caught up with the Group at Jacksonville, but the weather was still too dense to buck after the ride of the day before until about 3:00 o'clock, when Major Jones finally gave the word and the pilots took off for Miami.

"We were racing with darkness by now," says the News Letter Correspondent, "and pushed our planes as much as possible. Miami was reached and we all sat down at the Municipal field at dusk, got our assignments and hotel rooms and separated for much needed rest.

The next afternoon, the first day of the Races, the Group, led by Major Jones, staged a spectacular 'rat race,' followed by a review. The evening was spent in various and sundry ways, and about fifteen enjoyed a banquet given by the Chamber of Commerce of Miami Beach at the Roney-Plaza. The next day, Friday, the 'rat race' was repeated, and that night all were entertained at the Annual Arsenicker Club ball.

On the last day of the Races, the Group spent about 45 minutes thrilling the people in the stands; first by a longer and milder rat race, which had received the comments and plaudits of the spectators for the two days previous, and followed by the acrobatic teams of the various squadrons. As the Headquarters Flight and 36th Squadron acrobatic teams warmed up, Captain A.E. Waller had the 35th Squadron go through some intricate three-plane formation flying, and Captain George took his 33rd Squadron and started climbing for altitude. When the acrobatic teams finally came in for a landing, Capt. George turned the nose of his airplane for the ground and climaxed the Army's show with a roaring, deafening, spectacular vertical dive of nine planes, thus ending the Eighth Pursuit Group's participation in the 5th All American Miami Air Races. The Races were formally closed with a ball held at the Miami Biltmore Hotel.

With the return trip coming up the Group split, some returning on the 8th and some waiting over in Miami for various activities. The 35th Squadron arranged an all day fishing trip off the coast of Florida, and Lieut. Terry M. Turner came in with the winning catch, a 7-foot sailfish weighing 60 pounds. Other trophies of the trip are some baby alligators which are at present reposing in various bath tubs on the post. The return trip was made in one day, with the exception of the 35th, which again encountered bad weather and stopped off at Jacksonville, completing the trip the following day."

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MITCHEL FIELD PLANES GIVEN FULL LOAD TEST

All available airplanes at Mitchel Field, Long Island, N.Y., were wheeled out on the flying line on Saturday, Jan. 21st, adorned in their full garb of radios, cameras, guns, pyrotechnics and night flying equipment. The occasion was the new quarterly equipment test.

After an inspection on the line by Colonels Roy Kirtland and John H. Howard, all ships took off, made a climb to 15,000 feet against time and then tested all equipment. The results of all the tests proved very satisfactory. Cameras clicked off their pictures with precision; radios checked in on schedule; and the open water off Fire Island churned as the result of some fast lead hurling. In the altitude test, the O-39's, O-38C's and the O-1G's all reached 15,000 feet with their full loads in or under the rated ascent. No higher ascents were made, due to the lack of oxygen equipment at the Field.

Except for the lack of complete gun installations on two ships, all carried their complete military load. The experiment proved to be a worthy enterprise, because it brought forth some of the problems to be contended with in the event of a sudden mobilization. With these tests being conducted every quarter, the question of mobilizing a squadron for the field should soon be as easy as every day operations.

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FAST FLYING IN A TRANSPORT AIRPLANE

Lieut. John E. Bodle recently flew the Ford tri-motor Transport from Langley Field to Kelly Field, taking as passengers Major Junius W. Jones, Captains Theodore K. Koenig, Bernard J. Tocher, Idwal H. Edwards, Walter H. Reid, Lieut James A. Willis, Jr., Staff Sgts. Oliver E. King and Brown C. Tucker, who were enroute to Panama.

The trip was made with one stop-over at Maxwell Field. No time was lost along the route. The trip from Langley to Maxwell, a distance of 650 miles, was made in 5½ hours, and the trip from Maxwell to Kelly, a distance of 750 miles, was made in 6 hours and 5 minutes. Average speed for entire distance of 1400 miles, approximately 120 m.p.h. Quite a nice jaunt.

On the return trip some bad weather confronted the pilot and, in order to get thru, Johnny had to go under and over and down thru a hole, but he brought the plane in on time.

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The Commanding Officer of Selfridge Field, Major George H. Brett, recently made an interesting avigation flight to Fort Riley, Kans. Accompanied by Lieuts. McCornick, Armstrong, Cluc and Hughes, he took the new cargo ship assigned to Selfridge, a Northrup C-19, to Fort Rile via Chanute Field, Scott Field and Kansas City.

The trip had the dual purpose of testing cross-country qualities of the new airplane a to bring back a Curtiss P-6A which had been lent to Fort Riley for Reserve training.

V-6380, A.C.

BOMBARDMENT GROUP FLIES DOWN SOUTH

THE 2nd Bombardment Group with a strength of 26 B6-A Keystone Bombardment airplanes and one YLB-9 Boeing Bomber returned to Langley Field, Va., on January 10th and 11th, after a series of tactical exercises which included in the itinerary Savannah, Ga.; Jacksonville, St. Augustine and Miami, Fla.; Fitzgerald, Ga., and Montgomery, Ala. Throughout the period, which began at 8:45 a.m. January 3rd, and ended when the Headquarters Flight and the 49th Squadron returned to Langley Field from Montgomery at 12:30 p.m., January 11th, every movement executed by the Group or squadrons was under direct radio control. The avigation experience gained was exceeded only by the high degree of success attending the establishment and maintenance of command radio communications. In order that interested units may have a clearer background for the brief narrative to follow, it should be noted that each Bombardment airplane in the Group is equipped with either the SCR 152 or 167 long wave receivers. All airplanes, except a few #2 and 3 wing planes, have the SCR 134 long wave transmitters. The Group Commander, Deputy Group Commander, and each Squadron Commander and Squadron Communications Officers also are provided with the new short wave two-way command sets. These command sets had just been received and installed prior to the departure for Miami and on the first leg to Savannah Ga., while the Group was operating on a frequency of 400 K.C. on the long wave sets, the Charleston Navy Yard suddenly broke in with code on the same band to such an extent that all radiophone transmission was out of the question. During a slight lull in the Navy transmission, the Deputy Group Commander directed an immediate shift to 7550 K.C's on the new short wave sets, and thereafter throughout a series of radio-controlled maneuvers over Savannah and at the airport no reception difficulties whatsoever were experienced by the personnel in the aircraft so equipped, although a shortage of short wave sets for the entire group necessitated a relay of orders by visual signals within squadrons.

At Savannah plans had been well laid for the accumulating and testing of data incident to Local Air Defense Project No. 8. All units were held over in Savannah the next day due to solid fog down the coast, and on the following day, January 5th, the Group proceeded to Miami without incident, except for a remarkable demonstration of radio control from the Group Commander in a detached B-9, through the Deputy Group Commander who was in immediate command of the Group formation of B-6's. Upon leaving Savannah, fog and low ceilings were reported in the vicinity of Brunswick, Ga., about half way to Jacksonville, although the weather at Jacksonville had been reported as breaking. The leading squadron was put on the Jacksonville beacon; the Group Commander in a B-9 stayed under the fog well to the north of the course where a 25 to 100-foot ceiling was found; and the Deputy Group Commander, in constant radio communication on 7550 KC short wave with the Group Commander, in touch with the 30, 50 and 55 minute after the hour weather broadcast from Jacksonville on 344 KC long wave communications and flying to the flank of the Group formation, "feeling" the "n" sector edge of the Jacksonville directional beacon, was thus enabled to exercise the closest possible coordinated control over the Group formation during this 80-mile passage over solid fog, and later during a similar passage of about 50 miles south of Jacksonville prior to reaching clear weather at Cocoa. During the progress of the Group toward Miami, the Group Commander broke through under the fog, landed at Jacksonville, and within 30 seconds a portable loud speaker had been rigged on the horizontal stabilizer of the B-9, through which all transmission and reception of messages between the Group Commander and his Deputy were amplified and provided a source of great interest to crowds which quickly assembled.

During the period in Miami, one daylight squadron mission, one night squadron mission and one daylight Group mission were flown during which all tactical maneuvering was accomplished under direct radio control.

Leaving Miami by separate units on the morning of January 9th, the 20th Squadron reached Savannah, where unfavorable weather prevented a continuation to Langley Field until the following day. The 96th Squadron spent the night in Fitzgerald, Ga., as part of a prearranged tactical exercise, while Headquarters Flight and the 49th Squadron proceeded to Maxwell Field to give a demonstration of bombardment tactics to the students of the Air Corps Tactical School. Both Headquarters Flight and the 49th Squadron arrived at Maxwell Field considerably after dark and departed for Langley Field the morning of January 11th, about three-quarters of an hour before dawn.

All airplanes participating in these exercises returned to Langley Field in good shape except for badly needed maintenance owing to the skeletonized crews authorized for the tri

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EXCELLENT RECRUITS FOR TECHNICAL SCHOOL

Resumption of enlistments for the Air Corps, Chanute Field, which was authorized in Novemb 1932, after having been restricted since Janu of that year, resulted in bringing the studen body cadre of the Air Corps Technical School back to the normal reservoir figure of 200. this group, approximately 90 percent are recruits, while the remaining 10 percent is composed of previous service men. The recruits are of a high type, a small percentage of the being college graduates, many with one or two years' college work to their credit and all of them high school graduates. Of these new soldiers, 75 finished their recruit training on February 1st, making them available for entrance in the February classes of the Air Corps Technical School. These men, receiving recruit training under the supervision of Captain Walter Bender, Air Corps, Commanding Officer of the Air Corps Technical School Detachment, have become most creditable appearing soldiers in the short time since their enlistment and, having been given a thorough trade test examination prior to their being accepted to insure that each possesses the proper qualifications as to intelligence and education, much is expected of them as students.

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CUBAN OFFICERS TRY LANDING ON SNOW

Four Cuban Air Corps officers, Lieuts. Torres Alphonse, Barrientos and Duarte, recently made Mitchel Field a stopping off place in their flight to Cuba with four new Sea Hawks from the Curtiss Factory at Buffalo. All four pilots were seasoned in Pursuit training, having abou 1,000 hours to their credit. They evinced great delight over their new ships and the expanse of the country over which they were flying.

Enroute to Mitchel Field from Buffalo, they cruised over stretches of land covered with snow. They had all seen snow before, but as i is more or less a premium in Cuba, their curiosity about a snow landing got the better of them and they landed on a white field at Gloversville, N.Y., to try it out. All this occurred while the reception committee at Mitchel Field was pacing the floor in the Operations Building. A wire soon explained the delay, and everyone was happy.

SNOWBOUND MINERS FED BY AIRPLANE

THE 11th Bombardment Squadron seems to have established a reputation for peacetime missions, according to the March Field Correspondent. He says: "For those uninformed people who believe that the only mission of the Air Corps is to destroy lives, a study of the history of peacetime activities of the Army would be a very enlightening hobby. Last winter, the 11th Squadron dropped fifteen tons of food to snowbound Navajo Indians in Arizona and New Mexico. At the request of the Department of the Interior, whose investigation showed that the unfortunate first Americans had gone for many weeks in the rugged, rocky mountain country, unable to procure aid from outside sources, more than 20,000 Indians were relieved by the mercy mission, attempted by pilots and planes of the Army Air Corps.

Recently, a plaintive call was received from a mine operator in Nevada, stating that eight miners and a woman and small child were snowbound 117 miles north of Las Vegas in the Gold Range Mountains, with their food supply exhausted and no hopes of receiving aid other than by air for weeks. Lieuts. J.A. Miller and Cedric J. Brockliss, of the 11th Squadron, volunteered their services in this hazardous mission and, accompanied by two mechanics, departed from March Field in a Curtiss Condor Bomber on February 2nd. Basing at Las Vegas, they packed food furnished by the mine operator into securely wrapped burlap bags in 100-pound units, fastened these bags to the bomb shackles in the bomb bay of the plane, and flew into the lonely and snow-covered area, far from the established airways and modern means of communication. A forced landing in this country would undoubtedly have proved fatal, but realizing that the risks they were taking were well worth while they completed their mission successfully. Food weighing more than 500 pounds was dropped as the snowbound miners stumbled into the snow and wildly waved their thanks to the peaceful warbirds.

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NEW AIRPLANES RECEIVED AT FRANCE FIELD

Frence Field welcomed the arrival, on New Year's Eve at 4:30 p.m., of 17 planes which will be assigned to the Panama Air Force for its use in the defenses of the Canal Zone. The flight was led by Lt.-Col. John H. Pirie and was made up of the following personnel: From Washington with Col. Pirie were Capt. Martinus Stenseth and Lieut. Thomas D. White; from March Field, Major Clarence L. Tinker, Lieuts. D.D. Graves and E.W. Anderson; from Rockwell Field, Capts. R.E. LeBrou, Westside T. Larson, Lieuts. Delmar T. Dunton, Robert W. Goetz, W.B.Anderson; from Kelly Field, Major Charles R. Glenn, M.C., Flight Surgeon, Capt. O.A. Anderson and Lieut. Ned Schramm, and from Barksdale Field, Lieuts. Mark D. Steensen, Ernest E. Holtzen, Morris J. Lee, Robert M. Losey, Henry K. Mooney and Dean C. Strother. The original plan called for the arrival of the flight in sufficient time to enable the officers and men to return to New York and San Francisco via Army transports leaving the Canal Zone on the 28th and 30th of December, respectively, but unexpected delays caused them to miss these ships and their visit was prolonged to the evident enjoyment of not only the personnel of the flight but also the personnel of France Field.

It was first thought all would be left here until the next sailings of transports, one the last week in January for New York and the one for San Francisco about three weeks later. However, all were ordered home on commercial transportation - those from Washington, Kelly and Barksdale going on the Panama R.R. "S.S. Cristobal," sailing January 15th for New York, and those from the west coast going via the Dollar Line "S.S. President McKinley," sailing for Los Angeles on January 13th.

"It is nice to see people from the States," says the News Letter Correspondent, "but we would rather see them up there when it comes to ferry trips to Panama - with the longest avigation flight here limited to 300 miles."

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ANOTHER FERRY FLIGHT TO PANAMA

Army Air Corps personnel from eleven different Air Corps stations were recently on temporary duty at Kelly Field, Texas, awaiting final orders and other details pending their departure on a ferrying flight to the Panama Canal Zone. Major Junius W. Jones, Chief of the Inspection Division, Office of the Chief of the Air Corps, the Commanding Officer of the flight, set up his own headquarters which functioned as an organization at Kelly Field to such an extent that a telephone was installed in the office of the Panamanian Flight.

This flight the second which made Kelly Field its headquarters and starting point for the long jaunt to Panama, was made up of 12 P-12E Pursuit, 3 B-3A Bombers and 2 O-19C Observation planes. The previous flight, which also comprised 17 planes, departed from Kelly Field the latter part of December, with Lt.-Col. John H. Pirie in command.

Members of the second ferrying flight to Panama assigned to fly the 12 P-12E's were Major J.W. Jones, Captains Theodore K.Koenig and Idwal H. Edwards from Office of the Chief of the Air Corps, Washington; Capt. Audrey B. Ballard and 2nd Lt. Arthur W. Meehan, Selfridge Selfridge Field; Capt. Walter H. Reid, Langley Field; 1st Lieuts. Wm. N. Amis, Wright Field; James A. Willis, Jr., Bolling Field; Donald R. Goodrich, Patterson Field; 2nd Lts. Nathan B. Forrest, Jr., Roger J. Browne and Jerald W. McCoy, France Field, Panama.

Pilots and passengers, B-3A #30-289: Capt. Louis M. Eller and Mr. Sgt. Harry F. Bills, Kelly Field; Capt. James A. Mollison, Randolph Field; Staff Sgt. Anthony J. Gorges and Corp. A.E. Jorgensen, Barksdale Field, La. - B-3A No. 30-294: Capt. Bernard J. Tooher, Middletown Air Depot; 1st Lt. L.D. Wedlington, Randolph Field; Tech. Sgt. Wm. E. Pope and Staff Sgt. Wm. Rose, Selfridge Field; Tech. Sgt. Harry Glasscock, Kelly Field - B-3A No. 30-307: 2nd Lieuts. Walter E. Todd and Samuel V. Stephenson, France Field; Staff Sgt. Oliver E. King, Middletown Air Depot; Broun C. Tucker, Langley Field; Lee R. Simon, Kelly Field.

Capt. Calvin E. Giffin and Staff Sgt. Wm. M. Cornell, Brooks Field, were assigned to fly in one of the O-19C's and 1st Lieut. Arthur L. Bump, Brooks Field, and Captain Harold E. Schneider, M.C., Flight Surgeon, Kelly Field, the other.

Upon arrival in Panama, Major Jones and Capt. Tooher were under orders to conduct a technical inspection of Air Corps activities in Panama.

The route scheduled to be taken by the flight was from Kelly Field to Brownsville, Texas; to Tampico, Tojoris, Minatitlan, San Geronimo, Tapachula, Mexico; Guatemala City, Guatemala; Managua, Nicaragua; San Jose, Costa Rica; David, Panama; Albrook Field, Panama Canal Zone.

Kelly Field officers who recently ferried planes from Rockwell Field, Calif., for concentration of the second flight to Panama were: Captains H.K. Ramey, Odas Moon, Dale V. Gaffney, 1st Lieut. Joseph Smith and 2nd Lt. Ralph C. Rhudy.

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The 111th Obs. Squadron, Texas National Guard, was represented at the All-American Air Races at Miami, Jan. 5-7, By Capt. Fred S. Willbut and Lt. R.F. Wiseheart, who flew in an O-38.

Radio

Shipment of the new radio command sets was recently completed at March Field, Riverside, Calif. Preliminary tests on this light weight, compact little set have sent the praises of communications officers soaring higher than the planes they fly. Although not entirely familiar with the operation of the sets, Lieuts. Ivan Farman and John S. Mills, running their first tests on the new type set, were recently conversing from plane to plane in a bombardment formation, and their conversation was heard by the Wing Communications Officer, Captain Chas. Dowman, seated in a Pursuit plane, nearly 300 miles away. March Field has taken the development of radio communication seriously and is receiving new thrills daily because of the unusual performance of these highly efficient little sets. With such communication equipment in tactical organizations, the dreams of the aerial radio fans are at last coming true.

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Acting under suggestions of Major George H. Brett, Commanding Officer, the communications personnel at Selfridge Field recently installed an interesting and unique new method of communication, by which it is expected much greater efficiency will be obtained in conducting Group Problems in the future.

The new communications system is essentially a modified public address system, by which Group Headquarters is connected to the several squadron operations offices. In Headquarters, Operations Office, there were installed a microphone, power amplifier and selector switches. There is a loud speaker in each Squadron Operations Office. The switches at Headquarters connect at will the microphone to one or all of the loud speakers. At each speaker is a rheostat for controlling the volume of its output, also a small push button which actuates a blinker situated beside the microphone at Headquarters. By means of the buttons and blinker, orders or information received at any Squadron Operations Office may be acknowledged.

The system was tested by Lieuts. Doubleday and Shepherd, who were in charge of the installation. They found that even with all the ships turning up on the hangar line, speech issuing from the loud speakers in the Squadron Operations Offices can be readily understood. The system will receive its real test of practicality when Group Problems in connection with the spring training program commence. The speaker system should find its best application in alert problems. Hitherto, last minute orders had to be transmitted by telephone to the various squadrons, an unsatisfactory method because of the difficulty of understanding messages sent by multiple phone when airplanes are warming up on the line. At present the system is having a practical use in the calling of officers to come to Headquarters. When Major Brett, or the Operations Staff, desires anyone, it is a simple matter to plug in the microphone, turn the switch to the proper squadron speaker connection, and request the officer's presence.

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The 77th Pursuit Squadron, Barksdale Field, La., suffered its first casualty on December 3rd, last, since its organization and assignment to active duty status in November, 1930, at Mather Field, Calif. Unable to extricate himself from his ship after it collided in the air with the one piloted by Lieut. C. Darnell, 2nd Lieut. B.H. Purser, Air Reserve, was killed in the crash. Lieut. Darnell saved himself by jumping. Lieut. Purser graduated from the Advanced Flying School in June, 1932, and came to the 77th Squadron from Langley Field, Va.

A NEW COURSE AT AIR CORPS TECHNICAL SCHOOL

Plans have been made for a new course in the Air Corps Technical School, Chanute Field, Rantoul, Ill., and arrangements for its accommodation and establishment are in progress. It is to be officially designated as the Course for Air Corps Supply and Technical Clerks. Establishment of this new course of training was ordered by the Chief of the Air Corps, under authority of The Adjutant General, due to the great need of Air Corps Supply, Engineering, and Operations clerks in the service, as expressed at the recent annual Engineering and Supply Conferences at the Materiel Division at Wright Field, Dayton, Ohio.

The first course will commence on or about July 3, 1933, and will be of five months, or twenty weeks' duration. It will not be included under the administration of any of the four existing departments of the School, but will be under the direction of an individual Director, who has been tentatively appointed from the staff of the School. Each class, of which there will be two each year, will consist of twenty students.

Those concerned with the establishment and conduct of the new course consider it especially desirable that the twenty enlisted students be of the highest type of reenlisted soldier, in order that advantage of experience in the service may be fully used to the benefit of both the student and the Air Corps. With soundly laid detailed plans, it is expected that students graduating from the course will be thoroughly conversant with all details and operations of technical office work and latest equipment, and will possess the qualifications necessary to permit their assignment to Air Corps Supply, Engineering, and Operations Offices, as capable and efficient clerks, well equipped to enter into and to carry on any technical clerical work in a fully satisfactory manner. An integral element, extending throughout the course, will be constant training in correct office etiquette.

The entire course of instruction will be devoted to training of specialized technical clerks, and no effort will be made to train the students in personnel or organization paper work, since the latter elements are not considered as included in the purpose of the course. A comprehensive curriculum and schedule of instruction, both oral and practical, has been drawn up, to include the following subjects: Elementary Typewriting; Applied Typewriting; Business Arithmetic; Penmanship; Shorthand; Organization of the Army and its various pertinent offices and units; The Air Corps Supply System; Functions of the Materiel Division; Storage; Procurement; Distribution and Issue; Quartermaster Supply; Inventories and Reclamation; Nomenclature of Aircraft, Airplane Parts, Engine Parts, Tools, Machinery and Special Equipment; Elementary Bookkeeping; Bookkeeping Machines; Military Correspondence; Military Communications; Organization, Station and Depot Supply; Bids, Contracts, etc.; Inspections; Property Accounting; Calculating Machines; Business English; Supply of other branches; and all pertinent Army Regulations.

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"WELCOME TO ST. LOUIS"

This is not an empty slogan, but a sincere greeting to all visiting Air Corps personnel. "Lambert Field, where our hangar is located, says the News Letter Correspondent of the 35th Division Aviation, Missouri National Guard, "is one of the finest fields in the country. All modern airport refinements and equipment are in use by this municipally-owned airport. The field is just a 20-minute drive from the heart of St. Louis. When you call, avail you

V-6380, A.C.

self of our facilities, which include free storage in a modern, spacious, well-heated hangar, gas, oil and expert mechanical and technical service. No matter what hour of the day or night you desire storage or servicing for your airplane, they are obtainable.

Since moving into our new hangar, which also houses all section activity, as well as administrative offices and an officers' club, tremendous advances in squadron training and efficiency have been made. A very ambitious training program has been followed in every detail, resulting in a very high rate of proficiency in such activities as Camera gunnery, on both fixed and towed targets; Fixed and flexible machine gunnery; Low altitude bombing; Radio Communication, interplane and ground to ship, using ICW, CW and voice telephone - distances as great as 250 miles were covered, maintaining communication; Aerial photography, both vertical and oblique, the verticals consisting of pinpoints, strips and mosaics.

Blind flying and radio beam training has added to the skill of our pilots; Artillery adjustment, simulated and actual, has been performed successfully; Cooperation with Infantry has been carried out; Formation flying has reached a new state of perfection. The enlisted personnel have been well trained in connection with this program. An obvious improvement is noted in all crew chiefs, technicians and specialists as a result.

During the past year, the aeronautical rating of JAP was received by Capt. Wm.P. Donovan, 2d Lts. S.F. Gerding; AP by 2nd Lt. E.D.Zadontseff, and JAO by 2nd Lts. E.R. Alexander, B.W.Lichty, E.J. Burkhart and W.A. Miller. Flying personnel holding ratings at Air Corps Flying School are Major P.R. Love, Commanding, Capt.W.B.Wimer and 2nd Lt. W.W. Kratz, AP; 2nd Lt. E.M.Kruse, AP & AO and 2nd Lt. C.C. Hutchison, JAP. In addition, six of our officers hold a dual rating, viz: Major P.R. Love and Capt. E.H.Knoppel, AP & JAO; 1st Lts. W.B. Whitacre and F.Recen, JAP & JAO, and 2d Lt. E.M. Kruse, AP & AO.

Qualification for the past year in front machine gunnery and low altitude bombing was as follows: Major P.R. Love, Aerial Sharpshooter, 693; Aerial Marksmen, Capt. W.W. Brancell, 555; 2nd Lt. E.H. Lauth, 551; 1st Lt. F.T. Dunn, 544; 2nd Lt. E.D. Zadontsef, 485; 2nd Lt. E.M. Kruse, 483.

Through systematized training in pistol marksmanship, our record qualification in the use of this basic arm was 73% of squadron strength, compared to an average of 35% the previous year and an average of 35% in all National Guard organizations in previous years.

A particularly bright spot in our past year's work was the performance of a detachment composed of two tow target equipped airplanes and one tracking plane, flown and crewed by three officers and three enlisted men of this squadron. This detachment was assigned to duty towing antiaircraft targets for the 303rd Coast Artillery, Antiaircraft, Mo. N.G., at Fort Barrancas, Pensacola, Fla. Their brilliant work was commended very highly by the command of the 303rd, as well as higher authorities.

In spite of the concrete results obtained in the past year, an even more ambitious and intensive program has been outlined for the coming year. Scheduled flying missions are performed every Sunday at this station. Interested visitors will be welcomed this time."

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The thanks of the News Letter are extended to Captain James D. Givens, Air Corps, Secretary of the Air Corps Primary Flying School, Randolph Field, Texas, for his fine cooperation in connection with the production of the cover page for this issue of the News Letter. This cover was printed on the rotor press at that Field, as was the cover page for the December issue of the News Letter. Such cooperation gives encouragement to our efforts.

GRADUATIONS FROM ADVANCED FLYING SCHOOL

During the graduation exercises at the Advanced Flying School at Kelly Field, Texas, on Feb. 24th, the official wing insignia of the Air Corps was pinned on the breasts of 91 young men, who started their flying training at the Air Corps Training Center a year ago and who successfully completed the eight months' basic course at Randolph Field and the four months' advanced course at Kelly Field.

This graduating class comprises three officers of the Regular Army, detailed to the Air Corps for flying training, 83 civilian and enlisted students who trained under the status of Flying Cadet, and five noncommissioned officers of the Air Corps who retained their status as such during their period of training. The student officers will ultimately be transferred to the Air Corps, and the Flying Cadets will be commissioned 2nd Lieutenants in the Air Reserve and placed on extended active duty with Air Corps organizations. Preferring to retain the positions they occupied prior to their appointment as students at the Training Center, the five noncommissioned officers, who will also be commissioned in the Air Reserve, will not be placed on extended active duty under their Reserve commissions. Under a policy recently adopted by the Chief of the Air Corps, all enlisted students, regardless of their grade, will hereafter undergo their flying training at the Air Corps Training Center with the status of Flying Cadet.

Coincident with their receiving the wing insignia, all of the members of the graduating class will be given the rating of "Airplane Pilot."

By virtue of having the greatest number of native sons in this class, which started training in March of last year, California leads all the States of the Union in the matter of representation among the graduates. Out of her 25 students who started the one-year flying course, 19, or 76%, are graduating. This is considered an unusual record. From statistics compiled over a stretch of years, the general conclusion was reached that, taking the average run of young men eligible for flying training at the Army schools, the number of those graduating runs between 40 and 50 percent.

Los Angeles, Calif., leads all the rest of the cities represented in this class with five graduates. Texas is the nearest rival to California with 15 graduates.

Second Lieut. Merrick H. Truly, Infantry, a member of the graduating class, recently joined the famous Caterpillar Club, when a mishap in the air during a formation flight forced him to descend 1500 feet to terra firma suspended from his parachute.

One of the Texas delegation among the graduates boasts of a name which will be very appropriate should he adopt aviation as his future calling. His signature is George L. Fly.

The names of the graduates are as follows:

OFFICERS

2nd Lieut. John E. Barr, Field Artillery
2nd Lieut. Herbert C. Gibner, Field Artillery
2nd Lieut. Merrick H. Truly, Infantry

FLYING CADETS

Thomas S. Algert	Jean R. Byerly
Keith N. Allen	Robin C. Cannon
Wayne N. Allison	William A. Coln
William M. Ambrose	John E. Cook
Bob Arnold	Harold E. Dahl
Robert M. Arrington	George C. Diggs
Edward N. Backus	Murray B. Dilley
David M. Barkley	Henry C. Diltz
John H. Barry	Clarence P. Dittman
Harry H. Bissell	Duncan H. Dunlap
John V. Bordeno	Allen L. Erickson
Pete Brewster	George L. Fly
William M. Brown	Joshua H. Foster
Frank E. Busch	Watson M. Frutchey

Kenneth P. Gardner
John F. George, Jr.
Maurice E. Glaser
James M. Goodbar
Edmund T. Gorman
Wilson F. Grabill
Ernest W. Gray
Arthur A. Heid
William B. Hooten
Lloyd P. Hopwood
Clifford L. Huffman
Edward D. Kennedy
Edward G. Kiehle
Cyrus W. Kitchens
Leo Kriloff
Thomas F. Langben
Arthur L. Logan
John L. McAllister
William J. McCray, Jr.
Charles M. McHenry
Cleopas J. Messer
Wilton B. Miller
Chester C. Moomaw
John O. Neal
Harold L. Neely
Millard R. Newland
John J. O'Connell
William K. Payne
James H. Price
Leroy A. Rainey
William M. Reid
William F. Richmond
Osmond J. Ritland
James J. Roberts
Eldon A. Rohl
Berton Root
William I. Sanders
William W. Schaerdel
Herman A. Schmid
Dallas B. Sherman
Richard W. Simons
Donald K. Smith
Norman W. Speaker
Charles R. Springer
John O. Stewart
Malcolm F. Stewart
Fred J. Stevens
Robt. F. Strickland
Jerome P. Thompson
John A. Way
Edwin D. White, Jr.
Wilcox Wild
Lester R. Williams
Edmund C. Wolf
Thurman A. Wood
Raymond C. Woodward

AIR CORPS NONCOM. OFFICERS

Staff Sgt. Paul S. Blair, Brooks Field
Staff Sgt. Gilbert E. Layman, Mitchel Field
Staff Sgt. Thomas W. Rafferty, Ft. Crockett
Sergeant Fred H. Wilson, Mitchel Field
Corporal Fred O. Tyler, Brooks Field.

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WAR DEPT. ORDERS AFFECTING AIR CORPS OFFICERS

CHANGES OF STATION: To Scott Field, Ill: Maj. Martin F. Scanlon, from duty as Asst. Military Attache for Air, London, Eng.; Capt. Wm. C. Goldsborough, from Randolph Field; 2nd Lts. Leon R. Brownfield and Ralph O. Brownfield from Chanute Field.

To Barksdale Field, La.: 1st Lt. William H. Doolittle, 2nd Lt. Edw. H. Alexander, Chanute Field; 1st Lt. Charles G. Pearcy, Chanute Field; 1st Lt. Roy W. Camblin, from duty with 365th Ob. Squadron, Reserves, Muskogee, Oklahoma.

To Muskogee, Okla.: 1st Lt. Edwin Sullivan from Randolph Field, for duty with Organized Reserves, 8th Corps Area.

To Chanute Field: Capt. Wm. Turnbull, upon completion Armament course at A.C.Tech. School.

To Fort Crockett: 2nd Lt. Thomas B. McDonald, from Hawaiian Department.

To Mitchel Field: Capt. Martinus Stengeth from Militia Bureau, Washington, D.C.; 1st Lt. John F. Guillett, 2d Lt. Geo.R. Acheson, Chanute

To Hawaii: 2nd Lt. Wm. L. Kennedy, from Brooks

To Panama: 1st Lt. B.A. Bridget, from Chanute.

To Wright Field: 2nd Lt. Howard G. Bunker, from Chanute Field.

To Brooks Field: 2d Lt. J.P. Newberry, Chanute

To Langley Field: 2nd Lt. Charles G. Goodrich from Chanute Field.

To Maxwell Field: 2nd Lt. Frank F. Everest, Jr. from Chanute Field.

To Washington, D.C.: Major John B. Brooks as member of War Dept. Gen. Staff, from Philippines

To Chanute Field: 2nd Lt. Samuel V. Stephenson from Panama.

To London, Eng.: Capt. John W. Monahan, from Kelly Field, as Asst. Mil. Attache for Air.

RELIEVED FROM DETAIL TO AIR CORPS: 2nd Lts. Joe E. Golden, Erskine Clark, Harley M. Trice to Infantry, 2nd Div., Ft. San Houston, Texas.

TRANSFERRED TO AIR CORPS: 2nd Lt. Charles T. Arnett, Inf., Jan. 25, 1933, rank June 13, 1929.

ORDERS REVOKED: Assignment 2nd Lt. John B. Barr to Barksdale Field from Kelly Field.

RETIREMENT: 1st Lt. Rowland Kieburts to proceed to his home to await retirement.

CHIEF OF THE AIR CORPS RECEIVES MACKAY TROP

Major-General Benjamin D. Foulois, Chief the Army Air Corps, was the recipient of th Mackay Trophy at the hands of Senator Hiram Bingham, President of the National Aeronaut Association, at the Office of the Hon. F. Trubee Davison, Assistant Secretary of War for Air, on the morning of February 17th. General Foulois, the pioneer flyer of the Army Air Corps, was deemed most deserving the 1931 award of the Trophy for his outstanding flight leadership during the Army Air Corps Exercises and Maneuvers in the spring of that year.

The Mackay Trophy, the award of which is limited to flying officers of the U.S.Army, is now of 21 years' standing. It was presented by Mr. Clarence H. Mackay in 1912 to the Aero Club of America, but for some year past the National Aeronautic Association, su cessor to the Aero Club of America, has act as custodian of the Trophy for the War Dept Lieut.-Col. Henry H. Arnold, now commanding March Field, Calif., who, like General Foulois, also piloted the early Wright plan received the first award of the Trophy in 1912. Associated with the annual presentation of this Trophy are famous flight achie ments which have made aeronautical history added much glory to the Air Corps, U.S.Army.

The Board of Officers duly constituted to decide on the 1931 award of the Trophy, recognized the flight leadership of Gen. Foulo during the 1931 Air Corps Maneuvers as meri ing special recognition,- since these Maneuv ers constituted the largest concentration o military aircraft in the annals of the Air Corps, a total of 667 airplanes taking the air. The 1931 Air Division, in the matter personnel, consisted of 692 officers, 69 Fl ing Cadets and 643 enlisted men. A total of approximately 38,000 hours was flown, and th mileage, computed at average cruising speed, was approximately four million. There were three accidents during these Maneuvers, involving no fatalities or serious injuries.

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SLIPS AND SKIDS

By Flying Cadet E. S. Alloe

At Randolph we often seem to recall
O poem we learned while very small
"Rain, rain go away,
Come again some other day.

Yet every cloud has a silver lining,
And when it rains and the sun's not shining,
There's really no need to be so sad.
We got new galoshes to make us feel glad!

Then, too, as we once heard a dodo say,
When clouds were low and the sky was gray,
"I'm sorta glad this has come about.
If you don't get to fly you can't wash out!"

If the summer is spending the winter here,
The evidence seems to make it clear
That we can truthfully declare -
"It's a mighty rainy summer this winter."

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We extend our appreciation to the Materiel Division, Wright Field, for the very attract insert accompanying Major Howard's article - a composite photograph of tactical types of airplanes used by the Air Corps. The layout was prepared by Mr. Bob Fitzgerald, of the Technical Data Section, who has previously designed a number of News Letter cover pages.

For some time no contributions to the News Letter have come from Fort Crockett, Rockwell and Maxwell Fields. P l e a s e !